RICE LAKE NATIONAL WILDLIFE REFUGE MILLE LACS REFUGE NARRATIVE REPORT 1969

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UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF SPORT FISHERIES & WILDLIFE

FISH AND WILDLIFE SERVICE

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| | | Page |
|-----|---|---|
| I | General A. Weather Conditions | 1 |
| | B. Habitat Conditions 1. Water | 3 4 |
| II | Wildlife A. Migratory Birds B. Upland Game Birds C. Big Game Animals D. Fur Animals, Predators, Rodents & Other Mammals E. Hawks, Eagles, Owls, Crows, Ravens & Magpies F. Other Birds G. Fish H. Reptiles I. Disease | 5 8 9 10 12 13 13 13 |
| III | Refuge Development and Maintenance A. Physical Development B. Plantings C. Collections and Receipts D. Control of Vegetation E. Planned Burning F. Fires | 14 15 16 18 18 |
| IV | Resource Management A. Grazing B. Haying C. Fur Harvest D. Timber Removal E. Commercial Fishing F. Other Uses | 18 18 19 19 |
| V | Field Investigation or Applied Research A. Waterfowl Banding B. Canada Goose Flock C. Artificial Nesting Sites D. Rice Borer Study E. Soil Mapping F. Timber Management | 19 20 20 21 21 21 |
| VI | Public Relations A. Recreational Uses B. Refuge Visitors C. Refuge Participation D. Hunting E. Fishing F. Violations G. SAFETY | 21 22A 22B 22 23 23 |

$\underline{\mathsf{C}} \ \underline{\mathsf{O}} \ \underline{\mathsf{N}} \ \underline{\mathsf{T}} \ \underline{\mathsf{E}} \ \underline{\mathsf{N}} \ \underline{\mathsf{T}} \ \underline{\mathsf{S}}$

| | | | Page |
|-----|-------|-------------------|------|
| VII | Othe: | r Items | |
| | | Thomas of Tolores | 24 |
| | В. | Signature | 25 |

RICE LAKE NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

JANUARY - DECEMBER, 1969

I GENERAL

A. Weather Conditions:

| | Precipitation | | | Max. | Min. |
|------------------|---------------|--------|-----------------|-------|-------------|
| | Month | Normal | <u>Snowfall</u> | Temp. | Temp. |
| January | 2.91 | .633 | 32.8 | 32 | - 27 |
| February | •31 | •599 | 3.5 | 40 | - 19 |
| March | •28 | 1.239 | 2.0 | 55 | -10 |
| April | .96 | 2.343 | 2.0 | 67 | 15 |
| May | 2.04 | 3.716 | - | 90 | 30 |
| June | 2.21 | 4.071 | - | 82 | 32 |
| July | 5.19 | 4.440 | - | 90 | 38 |
| August | •34 | 3.970 | - | 89 | 45 |
| September | 2.86 | 2.749 | <u>-</u> | 84 | 29 |
| October | 1.30 | 1.575 | - | 75 | 15 |
| November | 1.06 | 1.258 | 8.0 | 62 | - 2 |
| December | 2.15 | •725 | 27.0 | 45 | _17 |
| Annual Totals | 21.61 | 27.318 | 75.3 | 90 | - 27 |

The moisture listings for months in which snow fell include the precipitation which fell as rain and the snowfalls which were melted for measurement here at refuge headquarters. As usual our temperature data came from the Government Weather Station at the Sandy Lake Dam, located 23 miles north of refuge headquarters.

Heavy snowfalls were received during the month of January. In fact the snow and moisture content was the greatest amount received for any January since 1945. The month alternated with bitter below zero readings and fairly warm days with some sleet and rain being received. By January 24, the average snow depth in wooded areas measured 27 inches. The total snowfall received for the month totalled 32.8 inches and the moisture content was 2.91 inches. Until the snow had settled some it was extremely difficult to get around. Even with snowshoes on one would sink up to the knees and a good share of the snowmobilers put their machines away as they were all getting stuck in the deep snow. Wildlife, especially deer, were having a extremely difficult time getting around and the State Conservation Department issued a call for help in opening up trails and cutting browse around deer yards.

Luckily, February and March were below normal in snowfall and precipitation. The first half of February was quite cold but by the middle of the month the weather moderated and very few below zero readings were recorded to breakup.

With all the snow on the ground the weather bureau began warning all areas to expect heavy floods comparable to the high waters of 1965. Some parts of the state did have severe flooding, but the refuge area was not affected. By the end of April the bulk of the runoff was completed and levels began equalizing.

April and May continued with typical spring weather. In fact, it was dryer than usual. Extreme temperatures were recorded during the month of May. A high of 90 degrees was recorded on May 28, which is most unusual for this area. Although the month of May recorded some very pleasant temperatures the months of June and July were very dry and cool. Frost was recorded in June. Many areas around the refuge were affected by a heavy frost on July 1 and again on July 3. It was cool enough to freeze gardens.

July weather was fairly typical temperature-wise but with above normal precipitation. Night-time temperatures were cool. A maximum of 90° and a minimum of 38° was recorded for the month.

August had constant high temperatures with a high of 89°. Normally, the nights are cool but this year they remained very warm for the bulk of the month. Precipitation for the month was .34 or 3.63" below the normal. Temperatures remained high to the middle of September with a high of 84° recorded on September 13. A light frost occurred on September 9, with a killing frost occurring on the 28th. It was a pleasant month temperature-wise but precipitation fell on 11 of the 30 days. Precipitation for the period was .73 or 2.019" below normal.

October, for the most part, was cool and damp. Although total precipitation was low rain did fall on 11 days. Frosts occurred regularly with evening lows down to 15° . However it was usually quite windy and prevented water areas from freezing. Two inches of snow fell on October 13 but quickly melted. By the end of October all small ponds, lakes and ditches were still open. Total moisture received for October was 1.30 inches which was in sharp contrast to the 4.28 inches received the previous year.

November began with extremely mild temperatures and continued through the deer season which ran from November 8-12, inclusive. In fact deer hunters complained of the heat. Needless to say, there was no snow cover. By November 11, a cold front moved in from the northwest and more normal temperatures for this time of year prevailed. The day after deer season ended one-half inch of snow was received - this was followed by one-half inch again on the 14 and 15th. By November 18 winter had really set in with 6.5 inches of snow received and temperatures around zero.

December was a heavy snow month with total snowfall amounting to 27 inches and moisture content 2.15 inches. Normal precipitation for the month is .725 inches. The snow cover at the end of the month averaged 18 inches. However, temperatures for the most part were mild with very little wind being recorded. The bulk of the snow fell before lakes and ponds had frozen very deep. The result was water on the ice making ice travel near impossible.

B. <u>Habitat Conditions</u>:

1. Water:

During January snowfall was heavy with a total accumulation of 32.8 inches. Precipitation in liquid form was 2.91 inches. Wildlife conditions, especially for deer, became a major concern because of snow depth. Fortunately, February brought only 3.5 inches of snow with .31 inches of moisture and March had only two inches of snow with .28 inches of water content. The dry trend continued in April as the ice went out and only .96 inches of moisture was recorded. High waters resulted from fast runoff but only minor damage occurred. It was necessary to winch log jams out of the Rice River control and one culvert washed out of the North Bog Road. The ice was out of Rice River by April 11, and Rice Lake by April 20.

May and June were also very dry and with cool temperatures crops were extremely slow in germinating. July was a wet month with 5.19 inches of rain and with more moderate temperatures day and night. The warm, moist conditions caused crops to shoot up rapidly. Wild rice beds also appeared to benefit. August was extremely dry with .34 inches of moisture but good ground water

conditions. September, October and November were months of relatively low precipitation but with frequent light rainfalls, especially during the first two months. As in 1968, December was a month of heavy snowfall with 27 inches contributing 2.15 inches of moisture.

Water management during the year was aided by adequate ground water. Cool temperatures during dry periods retarded evaporation somewhat.

The expected freeze-up, opening and refreezing occurred and both Rice Lake and Rice River were frozen over by November 14.

The peak elevation at the Rice Lake control was 98.46 feet on April 21. At the end of December the water there stood at 95.50 feet. Rice River peaked at 99.70 at the control structure on April 14, and ended the year at 95.00.

Total snowfall from January through December was 75.3 inches and total moisture was 21.61 inches.

2. Food and Cover:

Cool temperatures early in the season held up the development of food and cover plants but they picked up growth by mid-summer. Wild rice was spotty until the water temperature rose. Beds were fairly extensive and produced a good crop. Excellent beds of wild celery grew over much of Rice Lake and were concentration points for canvasbacks, widgeon, coots and whistling swans. Pondweeds also produced well.

Roundstem bulrushes provided early brood cover. Wild rice and bulrushes were favored by moulters. The primary wood duck roost was on the southwest side of Rice Lake where beaver activity created attractive conditions for woodies.

Exposed mudflats in the Rice River Pool and at Rice Lake outlet were highly favored loafing and feeding spots for geese, ducks and shorebirds.

Cultivated crops started slow but caught up when warm, moist days and nights in July made growing conditions ideal. Corn produced the best crop in years. Buckwheat, oats and rye also yielded well. Clovers and grasses made excellent browse and nesting cover.

II WILDLIFE

A. Migratory Birds:

1. Whistling Swan:

The first swans used Rice Lake during the third week of April when ten were observed. This was also the peak spring population as it was in 1967. Ice conditions kept feeding areas covered through much of the migration. Earlier opening in 1968 permitted a buildup of 400 birds. None remained during the summer. A crippled swan was reported east of the refuge on July 13; at the approach of the refuge manager and biol. technician, the bird took off to the east and was not seen again.

Fall migrants first stopped at the refuge during the last week of October. There were 70 at that time. The peak of 250 was 100 below that of 1968. Flights over the refuge were commonly observed until well after all water areas were frozen over in November. Some groups stopped only briefly and moved on. The birds used Rice Lake almost exclusively.

Total use by whistling swans was 3,850 days compared to 8,120 in 1968 but well above 1967 use.

2. Geese:

Through the first half of January three Canadas remained at the outlet of Rice Lake and at the springs where they fed primarily on rough fish such as perch and bullheads. From that time only two were seen until the third week of March when they also left the area. All were free flyers.

The first 15 migrants moved into the refuge during the third week of March. This was the same week as in 1968 when 15 were also the first arrivals. There was a gradual buildup to 500 in mid-April. Again, about half the flock chose to nest outside the refuge. These were investigated and mapped as has been done since more of the birds began using off-refuge sites. Cooperation from landowners was very good. Production of refuge geese was 100 young and about the same number of young came from outside habitat. One new wild rice paddy had 13 young Canadas and another area was reported to have over 20.

The refuge served as a regrouping area beginning in late July as young birds became capable of flight. There was much movement to other areas however, and there were times when most of the refuge birds used local lakes and fields. The first migrants were seen on September 23, with a peak population buildup of 800 large Canadas and 200 small ones. Lesser Canadas were present from the first week of October through the first week of November. All geese had departed by November 15.

Blue and snow geese first arrived for the fall migration during the fourth week of September when 30 of each dropped into the West Fields. The peak of 2,000 occurred in mid-October. Use by these birds varied from a short stop of a few hours to some which lasted for weeks. Their erratic use of this area is illustrated by the peak of 110 in 1968 and 5,500 in 1967. Spring use varies even more. Eighty were present during the spring of 1968 and none in 1969. Food and cover conditions in 1969 were some of the best in several years.

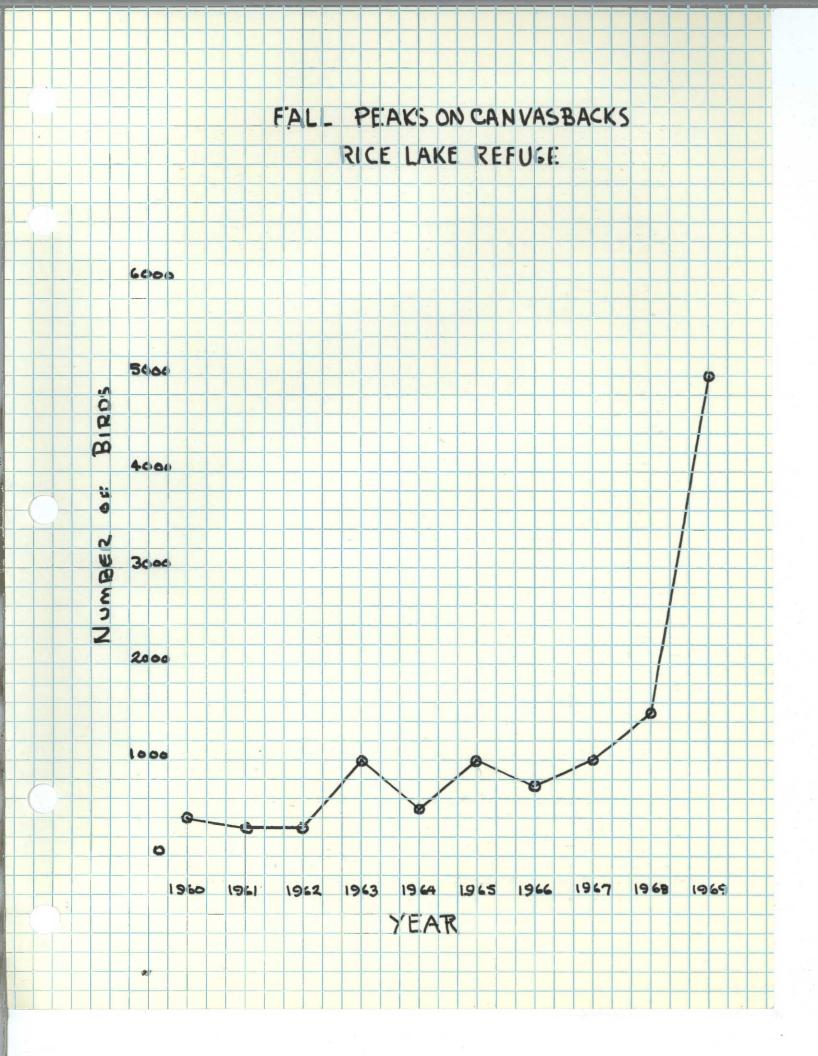
Total goose use for the year was 117,768, up about 14,000 from 1968. Most annual fluctuation is caused by blues and snows.

3. Ducks:

Arrival by ducks was generally more than two weeks later than a year ago. Ice cover kept most of the ducks from moving into the area until the second week of April and even then there was very little feeding habitat opened up except for fish-eaters. Mergansers and divers were among the earliest arrivals, preceded only by a group of 10 mallards the first week of the month. Peak spring populations were not reached until the last week of April and the first week of May. The peak of 8,750 was 5,000 less than a year ago, primarily because much of the migration had passed before refuge habitat opened up. The bulk of the difference was in blue-wings, ringnecks and scaup.

During the summer months ducks peaked about 3,000 below the summer of 1968 but total use was nine per cent higher, comparable to 1967. The production of 1,605 young was about 10 per cent higher than the previous year. Wood ducks, blue-wings, widgeon, mallards and green-wings were the best pruducers, in the order mentioned. Widgeon, blue-wings, shovelers, wood ducks, canvas-backs, goldeneyes and hooded mergansers showed increased use. Of especial interest was the production of broods by goldeneyes and canvasbacks, both new records for this refuge. Species showing decreased total use were mallards, blacks, pintails, greenwings, ringnecks and scaup. Stragglers from the spring migration were fewer than in 1968, which affected total use for the period.

The fall peak of ducks was more than 21,000 higher than in 1968 and the ringneck accounted for a large portion of the increase, as it did last year. These ducks showed 1,475,600 use days, an increase of 630,000. Mallards also reflected a substantial increase with 805,000 use days as compared to 434,700 in 1968. Blacks, widgeon, green-wings and blue-wings, wood ducks, canvas-backs and hooded mergansers also showed increases. It was



especially gratifying to have a peak of 5,000 cans on the lake in late October. Gadwalls, pintails, shovellers, redheads, scaup and buffleheads showed varying degrees of decreased fall use. Only the goldeneye retained a fairly stable status. Total fall duck use was 3,245,900 days.

Total duck use for 1969 was 3,980,118 days. In 1968 it was 3,069,220 days. Total waterfowl days use of the refuge in 1969 was 4,338,056 as compared to 3,638,439.

4. Coots:

The first 10 coots appeared on the refuge during the third week of April as compared to a week earlier a year ago. The peak of 500 came two weeks later. This was comparable to the previous year and the peak summer population of 100 was about the same. Production of 50 young was average for the past several years.

Coots began moving into the refuge the second week of September with an initial influx of 100 birds. By the first week of October there were 10,000 coots on the refuge, mostly on Rice Lake. This was again a 5,000 coot drop in peak population for the fall. Birds were moving out within a week and a gradual decline continued until the last 50 coots left the refuge during the second week of November.

Total coot days use for the fall was 215,250, about half that of 1968. The total for the year was 236,320 days as compared to 457,800 in the previous fall.

5. Other Water Birds:

The first great blue heron arrived on the refuge March 24, and there were 100 by April 10. They did not return to the island rookery as they had for so many years. The raccoon depredation of a year ago must have remained in their memories and they established a new colony along the Rice River. There were nearly 50 nests in the new rookery, an area that had not been previously used for this purpose, at least in recent years. Blue heron use during the summer was about average, with many of the birds flying off the refuge to feed during the day and returning at night. They were present until October 29. Belted kingfishers arrived on April 10, and remained until November 8. The earliest common loon was seen on April 18, about 10 days later than last year. Numbers varied up to 10 but usually two to four were using the refuge. The last observation of these birds was on October 27. Sandhill cranes

arrived on April 12, and also remained throughout the three seasons. Usually peak numbers seen were four. They remained until November 6. American bitterns were common on the refuge from April 18, until October. Pied-billed grebes were fairly common summer residents while horned grebes visited in fair numbers during early spring and late fall. Common egrets visited the refuge in singles or couples in May and June. Three white pelicans stopped in during early June.

Sora rails were commonly heard and sometimes seen during the summer months. They were quite common in the rice beds in September. Virginia rails were less common but were present on the refuge in good numbers.

6. Shorebirds, Gulls and Terns:

Killdeers were again the first to arrive, with three seen on April 4; after that they were common on roads and fields of the refuge. Common snipes arrived on April 11, and became one of the more common residents with several hundred using the refuge by early fall. Spotted sandpipers were again the most common shorebirds along pond and pool edges. Lesser yellowlegs were also April arrivals. Ring-billed and herring gulls were visitors throughout the spring, summer and fall. Midsummer and cearly fall water management exposed mud flats which were favored shorebird feeding spots for such other species as least sandpipers, pectoral sandpipers, Wilson's phalarope and greater yellowlegs. Golden plovers stopped over in May and September. Black and common terns were fairly common summer residents. Two immature Bonaparte's gulls were observed on August 11, on Rice Lake. Most shorebirds and terns had departed by early fall but a few of the hardy ones remained. Killdeers were seen until October 17, spotted sandpipers until November 9, and lesser yellowlegs until November 16.

B. <u>Upland Game Birds</u>:

Spring drumming by ruffed grouse was quite promising and nests were located in two areas. Early observations of broods indicated a fair production. By fall it was apparent that though there would be a fair population it would not measure up to spring indications. This was borne out during the hunting season when a portion of the refuge was opened to grouse hunting. Again, predictions of high ruffed grouse populations made by the State on the basis of spring drumming counts, did not come true for this area. A fair carryover went into the winter though observations were scattered during the fall and early winter months.

One promising feature was the first change noted in the sharp-tailed grouse population in several years on the upward side. At least one fairly large brood was seen in the West Fields area. During the fall one flock of 35 was observed and other observations indicated from 16 to 30 or more birds using the cornfields, buck-wheat and other crops. When flushed they would usually fly into the willow thickets and marsh south of the fields. Observations of smaller groups were also made in the northeast and northwest portions of the refuge. Sharptails were noted west of the refuge. Budding on birches by both ruffed and sharp-tailed grouse was observed in early winter.

Very light spring and summer use of the refuge by woodcock was noted. The singing ground surveys indicated limited populations. The most commonly used portion of the refuge lies along the east side near East Lake. Here birds were occasionally observed during the evening. No major fall flight was noted on the refuge and grouse hunters reported a similar condition outside. Though precipitation was light during the fall it was quite frequent and habitat conditions for these birds were fair to good.

C. Big Game Animals:

Heavy snowfalls early in the winter indicated a rough winter for white-tailed deer and yarding occurred early. Much emergency work was done by sportsmen in surrounding yards through browse cutting and making trails to available food. Refuge deer appeared better set-up than on some areas and though access trails were packed for them, cutting was extremely limited and used only for a couple of isolated fawns which appeared in special need. Deer used packed trails well for travel in areas adjacent to the yards. The weather became dry after January and little snow fell for the rest of the winter, which may well have been the salvation of large numbers of Minnesota white-tails. The fawn crop showed a good number of twins on the refuge but many outside landowners reported no deer where they had good numbers on their fields previously.

By fall it was possible to see 30 or 40 deer in the fields at times and possibly that many more in a tour of the refuge. Heavy use was made of one of the best corn crops in recent years. Fall age ratios indicated a strong preponderance of adult deer and hunting statistics showed the same. Fall population data was about the same as the previous year. The post-season carry-over was adequate but appeared down slightly. A portion of the refuge deer yard off the refuge in winter.

Moose continued to wander in and out of the refuge and tracks were seen on several occasions during the summer and fall. Moose were

present northeast of the Rice River the day prior to the deer hunting season but no sign was seen of them after that time. They were in an area open to hunting.

Black bears were seen regularly throughout the summer by both refuge personnel and visitors. Favorite crossings continued to be in the Mandy Lake area and east of the main bridge over the Rice River. One fisherwoman at the bridge departed after seeing several cross the road one morning. During the spring, one was observed to drag a dead deer from the water of a ditch, eat its fill of viscera and cache the rest which it cleaned up on later visits. Mr. Thornbloom's 12-year-old son experienced a real thrill when he met one face-to-face at close range during the fall. Needless to say, neither stayed to enjoy the other's company. Bears, like most other big game, spend a portion of their time outside of the refuge and some den off the area. Those animals observed appeared in good condition. Many of the refuge oaks contributed their acorn crops from broken limbs to fatten the bruins for the long winter.

D. Fur Animals, Predators, Rodents and Other Mammals:

A mink den on the Rice River Pool provided opportunity for observations of these animals during the early spring. Another spot was the outlet structure of Rice Lake. Over-all the population was light. One mink developed a taste for the bait in one of the live traps used for predator control around goose nests in the spring. As a result, it was taken ix days in a row and occasionally thereafter. It became so tame that when released it would merely move to the water and drink, then go about its business as casually as though nothing had happened.

Muskrats made a fair increase during 1969 and houses were more common. The single trapper employed made only a light catch and the carry-over should be adequate.

Activity by a family of otters on the Rice River proved a source of pleasure for many fishermen during the summer. These animals wander freely over the refuge and adjoining lands and some are trapped each spring on outside areas. The population, therefore, remains quite stable from year to year. An amateur photographer was pleased to find out that his picture of a large mink was actually an otter photo. Tracks during the winter were not as common as a year ago but Roce River showed good use.

Beaver colonies are distributed throughout the refuge and in most cases help to create and maintain waterfowl habitat. The prime wood duck roost in 1969 was created by beavers on the southwest corner of Rice Lake. Very little difficulty occurred with culvert plugging. In the fall some new activity was noted around the new

Beaver Pool and two young beavers were observed. One trapper was employed to remove a few nuisance animals along the North Bog Road.

Weasels were especially common during 1969 but there was little or no interest in them by trappers because of low pelt value.

Red foxes are not as common as they were a couple of years ago but observations were quite regular and three dens were located. Only three pups were produced in each den. A deer hunter reported seeing a black specimen on the west side of the refuge but a local trapper working private lands in that area caught only reds.

Coyotes continued to increase and were quite commonly seen during the summer and into the winter months. Their calls could be heard occasionally at night or early morning. One case of a late winter chase and kill of a weakened deer in the north bog was authenticated by Thornbloom and Pospichal. The animal was eventually completely consumed by coyotes and foxes.

Raccoons were down slightly from the previous year but still common enough to be seen regularly and to cause problems in the operation of banding traps. Control operations around goose nesting areas during the spring probably helped to prevent predation upon known nests. Seventy-six 'coons were taken.

Badgers were seen only occasionally, usually in the more sandy soil portions of the refuge where their diggings were in evidence. Numbers are low.

Bobcat tracks were seen during the winter months, especially around the swamp area east of Rice Lake. One large animal was observed in late November crossing the entrance road east of the bridge. Status is uncommon but fresh signs were not difficult to find. Fish in the springs were a prime winter food.

A slight upswing in the number of skunks on the refuge was noted but control measures removed 11 in nesting areas. A moderate population exists.

Porcupines were fairly common over the entire refuge but no problems of tree damage were noted. Feeding was primarily on twigs of deciduous trees.

Red squirrels were common throughout the refuge; grays were uncommon and fox squirrels were rare.

Chipmunks were common; Franklin's ground squirrels were uncommon and 13-lined ground squirrels were fairly common.

Meadow voles and red-backed mice were regularly noted, as were white-footed mice. A few jumping mice were noted. Star-nosed moles, least and short-tailed shrews were fairly common.

Stray cats and dogs were seen occasionally.

E. Hawks, Eagles, Owls, Crows, Ravens and Magpies:

Some species of hawks were active on the refuge during most months of the year but most spring arrivals began to move in by mid-March. Summer residents and visitors included redtails, broadwings, roughlegs, marsh hawks, sparrow hawks, sharp-shins, Cooper's, goshawks and ospreys. Most of these species were present well into the fall and some, like roughlegs, remained into the winter. Turkey vultures were seen occasionally during the spring, summer and fall. Northern shrikes were present in fair numbers throughout the winter.

The first bald eagle noted on the refuge in the spring was an adult seen on March 8. On April 8, there were 12 seen along Rice Lake and the Rice River Pool. A pair was on the nest west of Rice Lake in March and two young were hatched. Summer observations were occasional but by early fall when migrating waterfowl began to arrive, bald eagles did also. The greatest number seen on a single day was 16, all of which wære immatures. This was on October 30. Numbers fluctuated daily but rarely were there more than two adults to five young in the age composition. A single adult was last seen on November 26.

Among the owls using the refuge the barred owl continued to be most common. Great horned owls, though less common, were seen and heard occasionally, especially in the eastern portion of the refuge. Only one snowy owl was observed. This one was seen on March 24. The first great gray owl was noted on February 2, and from one to three could be found almost daily through April. The first observation of a saw whet owl was on March 28, when one chose to spend a day near the refuge headquarters. Screech owls could be heard in the river bottoms on summer evenings. Long-eared owls were uncommon.

For the first time in several years, crows were noted on the refuge throughout the entire twelve months. Generally they are absent during December and at least part of January. Croplands attracted them during the summer and fall and during the winter they fed on rough fish cast off during northern pike rescue operations. Several hundred used the refuge during the fall.

Ravens were present throughout the year and it was a simple matter to locate carrion as these birds were usually there first. Normally only singles or couples are seen but there were times when up to 35 or 40 would gather at good food sources.

Magpies remained occasional transients.

F. Other Birds:

The usual winter birds included such species as chickadees, white and red-breasted nuthatches, hairy and downy woodpeckers, pileated woodpeckers, evening and pine grosbeaks, purple finches, common redpolls, horned larks, snow buntings and pine siskins. The pine grosbeaks were unusually common. Gray jays were occasional visitors though they are common in neighboring areas. Black-backed, 3-toed woodpeckers were seen on several occasions in February. Summer birds included most of those on the refuge list. Bluebirds, tree swallows, house wrens and purple martins used houses furnished them at headquarters. Ruby-throated hummingbirds used feeders regularly.

G. Fish:

Northern pike rescue by State crews continued until February 10, when the lake outlet oxygen went dead. Island pumping was not successful in late winter though lead traps did take some fish. Water on the ice prevented access by trucks so a tank was hauled behind a snowmobile.

An excellent run of northern pike moved into Rice Lake during the spring and the hatch was heavy. Fishing was good throughout the summer in Rice River. Fish rescue at the lake outlet started October 23, and by December 31, the take was 40,568 northerns weighing 21,459 pounds. These were stocked in other lakes in the area which are open to public fishing and have public access. These, added to the late winter catch, made available many fish for sportsmen. Runs of bullheads and yellow perch were unusually light but dogfish were much more common than in other years. The outlet site was dead by the end of the year and successful pumping was started at the island. Rough fish again furnished much food to local residents and to some who came considerable distances for suckers and bullheads for smoking.

H. Reptiles and Amphibians:

Garter snakes were the most common reptile noted. Smooth-scaled green snakes and red-bellied snakes were less common. Snapping turtles were quite regularly seen along dikes and roadways, especially during the egg laying period. Painted turtles were also plentiful in ponds, lakes and streams. Spotted salamanders, leopard frogs, mink frogs, copper frogs, spring peepers, tree toads and common toads were all present in good numbers.

I. Disease:

No evidence of disease among refuge wildlife was noted.

III REFUGE DEVELOPMENT & MAINTENANCE

A. Physical Development:

A new underground power line was installed from the pole at the office to Residence 68; larger wire was used and a transformer was set up at the house. This improved power service considerably. At the same time a new telephone cable was laid in the same trench.

Seven new ponds were dug with the D-7 and dozer and five swampland areas were plugged with short dikes for waterfowl habitat development.

A new garbage pit was dug and the old dump was buried. On this and other fill projects 279 cubic yards of dirt were hauled.

New water gauges were installed on the Rice Lake and Rice River controls and one at the bridge was readjusted.

A new gas pump hood was constructed.

Many routine jobs of maintenance such as blading, mowing, snow plowing and others of that type were carried on. Log jams were removed from controls during high water and a large additional culvert installed to assist in moving water across the North Bog Road. Since this is a sand area, 18 cubic yards of clay were hauled to seat the culverts. That road was reshaped and all roads on the refuge received some gravel during the period. This amounted to 210 cubic yards hauled and spread. Several buildings at the refuge headquarters were repainted and repairs made where needed. New lands, including the 826 acre Wiita tract were posted and new fences were built on the northeast and northwest sides of the refuge. Several old wells were filled. Thirty-three cubic yards of rocks were picked from several farm units, a continuing job. Willows were sprayed to develop and maintain grasslands. Repairs were made to fill burrows in the Beaver Pool dike. The grease pit in the welding shop was filled and cemented over to make more work space. An oil furnace was installed in that shop and the coal unit removed. The old boathouse was moved and repaired and rollers were built to facilitate moving heavy units. Many other jobs were done, including brushing the old goose pen dike and nesting areas.

B. Plantings:

1 1. Aquatic and Marsh Plants:

One hundred and fifteen pounds of wild rice was seeded in the Rice Lake and West Field impoundments.

2. Trees and Shrubs:

None.

3. Upland Herbaceous Plants:

None.

4. <u>Cultivated Crops</u>:

Good field conditions in May permitted early access for working and seeding croplands. Cold, dry weather prevailed in early summer and crops were slow to germinate. Corn looked too small by July 1, to mature by freeze-up. During July the weather changed to warm nights and plenty of moisture. Crops caught up and produced a good yield for this area.

Corn strips were sprayed with atrazine. Excellent control of quack grass and weeds resulted. The 28 acres produced about 25 bushel corn which was used by several species of wildlife. Geese, sharptails and deer were primary users.

Oats was planted rather late. It produced summer browse and good conditions permitted the crop to mature. Blue and snow geese used the oats especially well. Twenty-two acres yielded 15 bushel oats.

Buckwheat was planted on 34 acres and produced at about eight bushels. This crop was used by many forms of smaller wildlife species such as song birds and grouse. Deer used it from early growing stage through maturity when they shared the fields with ducks.

Mowed browse strips of legumes such as red and alsike clover covered 70 acres. Hay yield was good and strips were well used by geese.

Rye strips produced 35 acres of browse and grain.

Sixty-one acres of farm land were kept fallow for mechanical weed control and rock picking.

C. Collections and Receipts:

The wild rice harvest got underway Monday, September 8, 1969. This was an earlier starting date than the last few years and it caught the refuge staff by surprise as the rice was still quite green. Normally the Indians wait until the crop is thoroughly ripe. Most of the ricing committee is now comprised of young Indians who live away from this area and move in only during the ricing period. Apparently they do not have the experience and knowledge of the older Indians and are not able to anticipate the proper harvest time as readily.

The committee was advised that the rice was still quite green but were allowed to proceed with their ricing plans as, traditionally, they have set the starting date. This early starting date was reflected in the pick - instead of the large greenish-brown kernel, the rice was green, small and prompted many buyers to remark that it didn't look like Rice Lake rice. Much of the rice beds had an heavy infestation of worms especially in the shallow water areas and the rice brought into the landing had many worms in it.

At the time the Indian Committee notified the Manager as to the starting date they were advised that the Court Order in effect the previous year had expired. They were further advised that the old procedures would be followed with the following exceptions: 1. The Committee would select the entire ricing list and 2. The Committee would be responsible for maintaining discipline. They were also given the choice of weighing in the rice and deducting the Governments' eight per cent but they declined, preferring to have the refuge staff do it. They did take upon themselves the selection and notification of ricers and to furnish us with a written list for our files. This list was never received.

The local Indians still maintain they should have exclusive control over Rice Lake ricing. Only local Indians or Indians from other areas that were in some way related to locals were allowed to rice. These other Indians were invited to rice as guests. At the end of the ricing day Friday, September 12, the Indians requested the rice beds be rested until the following Monday to give the rice a chance to ripen. This request was granted in an effort to maintain good working relations with the Committee. On Monday when ricing resumed, only 34 boats were out harvesting instead of the 56 allowed. Those that didn't show up had all kinds of excuses the following day. They don't seem to realize that they are the losers as the rice ripens and falls off whether they are there or not. The bulk of them had done too much celebrating over the weekend and couldn't work on Monday. One young lad spent most of the day fishing on the refuge fishing area. From this day on the pick fell off rapidly as the following table shows:

| Date | of | No. boats | Ave. 1b | s./boat | Total lbs. picked |
|---------|-----|--------------|---------|---------|-------------------|
| Sept. 8 | | 52 | 17 | 6 | 9,161 |
| 9 | | 55 | 13 | 5 | 7,431 |
| 10 | | 55 | 17: | 3 | 9,543 |
| 11 | | 53 | 98 | 8 | 5,182 |
| 12 | | 50 | 104 | 4 | 5,224 |
| 15 | · · | 34 | 84 | 4 | 2,839 |
| 16 | | 45 | 83 | 3 | 3,768 |
| 17 | | 43 | 6 | 7 | 2,922 |
| 18 | | 17 | 86 | 5 | 1,476 |
| 19 | | 34 | 56 | 6 | 1,916 |
| | | | | | 49,462 |

Once again, it more or less proves that ten days is sufficient and is really about all the Indians can stand to work. The harvest went rather smoothly but without the control exercised in the past. Indians came and went as they pleased, started late, quit early, riced when they pleased without the worry of having their permit revoked. There were several drunk Indians at the landing but none drank while ricing. The Committee, as far as we could see, did little to maintain discipline and order. On the last day of ricing several of the Committeemen approached the Manager asking for additional days for ricing but the request was refused. Weather conditions during the harvest were favorable with mild temperatures and very little wind. Water levels were low making rice beds near shore in the shallows difficult to work. These areas are heavily utilized by waterfowl as rice is readily available to them.

A total of 56 boats, harvesting 10 days during the period September 8 to 19, picked a total of 49,462 pounds of rice. The Government share of eight per cent amounted to 3,958 pounds. Cash return to the Government was \$4,680.23 with 115 pounds retained for reseeding new refuge areas. The lowest price paid per pound of green rice was \$1.10 and the highest \$1.50. The average price paid was \$1.25. The average season take per boat (less the Govt. share of eight per cent) amounted to about 810 pounds which at an average price of \$1.25 gave each boat an income of \$1,012.50. Last year this income amounted to \$1,121.85 per boat. Based on the average of \$1.25 the best ricing team made about \$2,578 and the poorest \$344. The average harvest per boat this year came to 810 pounds compared to 831 last year. The average number of boats picking for the ten days was 43.7 and the lowest number of boats picking on any one day was 17.

The status of the court action against the Bureau and Refuge is unknown at the present time. The Manager and Biological Technician were ordered to Judge Lord's chambers on Friday, April 18, 1969 to

confer on how the 1968 rice harvest worked under terms of the court order. In addition, the Indian's attorney Mr. Hillstrom was present plus the U.S. Attorney, Patrick Foley. No Indians were present. The hearing took about an hour during which time Judge Lord was quite outspoken concerning the Refuge-Bureau stand on the matter. We were to appear in court again on Monday, April 21, 1969 but some arrangement was worked out between Judge Lord and the Bureau whereby we did not have to appear. That was the last information received on the proceedings. We are anxiously awaiting a final decision.

D. Control of Vegetation:

Control of willow was done with bulldozer, mower and spraying with a tractor mounted unit. This work was around the Rice Lake Pool and on several recently acquired tracts to keep small open fields from being taken over by willow. As mentioned in an earlier portion of this report atrazine was applied to the refuge corn fields at the rate of three pounds per acre. It was highly effective in control of quack grass and other weeds

E. Planned Burning:

Spring weather conditions made it impossible to follow the approved burning plan.

F. Fires:

None.

IV RESOURCE MANAGEMENT

A. Grazing:

Two permittees grazed a total of 32 animals for a total of 176 AUM's.

B. Haying:

Haying conditions were similar to those of 1968. In fact the total amount of hay cut was almost identical with 319.76 tons cut compared with 319 tons in 1968. Eight permittees worked the refuge and are the same people who have hayed here for many years.

C. Fur Harvest:

There was a small fur harvest on the refuge this year. About midway through the trapping season our only applicant applied for a permit

to trap muskrats on Rice Lake. Trapping on a limited scale due to a back injury he removed 54 muskrats in about a two week period. He began trapping at about the same time we had several heavy snowfalls and conditions were very poor with slush on the ice and all feeders covered. The Government share of 27 'rats came to the grand total of \$24.00.

D. <u>Timber Removal</u>:

None. A new timber management plan has been approved and cutting under it will began in 1970.

E. Commercial Fishing:

None.

F. Other Uses:

None.

V FIELD INVESTIGATION OR APPLIED RESEARCH

A. Waterfowl Banding:

No mallard quota was set for this refuge during 1969 so although these ducks were readily taken in black duck traps, all were released unbanded. Unfortunately, black ducks were in short supply during the banding period and few were taken. Listed are the birds banded.

| | | | A | fter | | | |
|------------------|------|---------------|------|--------|-------------|--------|--------------|
| | Hat | ching | Hat | ching | | | |
| | Y | ear | Y | ear | I | ocal | |
| Species | Male | <u>Female</u> | Male | Female | <u>Male</u> | Female | <u>Total</u> |
| Mallard | | | | 1 | | | 1 |
| Mallard-Black | 1 | | 1 | | | | 2 |
| Black | 8 | 3 | | 1 | | | 12 |
| Canvasback | | 1 | | | | | 1 |
| Wood Duck | 1 | | | | | | 1 |
| Widgeon | 26 | 19 | 2 | | | | 47 |
| G. W. Teal | | | 1 | 1 | | | 2 |
| Blue-Winged Teal | 1 | | | | | | 1 |
| Ring-necked Duck | 1 | 5 | 2 | 1 | | | 9 |
| Canada Goose | | | | - | _7 | 3 | 10 |
| | 38 | 28 | 6 | 4 | 7 | 3 | 86 |

The refuge again worked with the State of Minnesota to devise a means of trapping an adequate pre-season sample of ringnecks. Several hundred yards of leads and large trap proved unproductive as the birds were not in the area of the set in sufficient numbers. For this reason a planned drive was unsuccessful. It was planned to utilize the fact that often large numbers of these birds are reluctant or unable to rise off the water and can be moved some distance. Usable sites are limited by bottom conditions and water depth. Bait traps were ineffective.

Night lighting was one alternative method and trial runs indicated that this was probably the most promising for this area. It was found that ringnecks could be taken with a dip net if properly approached. Other species such as mallards, widgeon, teal and redheads could also be caught. Coots were easier to take than ducks, as a general rule. By the second night of work a fairly good take was made. Since a large enough sample could not be taken with the limited time and equipment, none of the ringnecks was banded, nor were other species. It was felt that a good crew with a reasonable population to work on and adequate access to sites of use could take 100 or more birds per night. Consideration will be given to the use of two or more units for next fall's ringneck banding operations. This appears to be the most practical approach with the limited time from arrival of the birds until the hunting season.

B. Canada Goose Flock:

The survey of the spread and nesting success of the refuge flock on outside areas was continued. The Biological Technician contacted landowners and mapped nest, pairs and other pertinent information such as site preference and production. Early data, substantiated by refuge information, indicates small ponds with good cover are preferred. In 1969 the Canadas still gathered at the refuge in spring and fall before moving out for nesting or migration. It will be interesting to note if this will continue in the future.

C. Artificial Nesting Sites:

1. Goose Platforms:

After four years of testing, the nearest observed thing to use by geese was an inspection on one of the platforms by a lone Canada. Although several types were available, none was accepted. Earthen or brush sites were readily used and some shoreline nesting also occurred. Good cover such as weeds or low brush appeared desirable to the birds.

2. Duck Platforms:

Duck platforms in favored mallard and teal nesting areas received no use. This was the third year of testing for this type of structure.

3. Wood Duck Structures:

The fiberglass capsules have endured four years of exposure to the elements with no apparent deterioration other than a flaking of the paint on some and bullet holes in others. Integral paint would eliminate the flaking. Nearly all painted ones were used by some species of bird and no predation was noted in any of them. Wood ducks and hooded mergansers used twelve of the 96 structures out. Of these, five were translucent originals left uncolored as a check. Entrances are difficult to discern and none of these has been used by any form of wildlife.

The twenty western cedar houses built and erected a year ago showed increased use this year and produced the only known brood of common goldeneyes raised on the refuge. All of these units are on pipe stands over water.

Two metal nest boxes were erected on flooded trees in a pond. Both of these houses were used by wood ducks and produced broods.

D. Rice Borer Study:

The employees of the Minnesota Department of Agriculture again pursued their rice borer study with considerable equipment. This constituted the third year of the study but no evaluation of data has been made to-date.

E. Soil Mapping:

The mapping of all refuge soils was carried on by two soils scientists of the U.S.D.A. with the occasional help of refuge personnel and consultation with the Aitkin County Soil Conservationist. All field work was completed and a plan is being developed. Previously mapped lands in farm units were redone. Cost to the refuge will be approximately \$1,500. Benefits should be considerable.

F. Timber Management:

A new timber management plan was approved. All timber and wetlands were inventoried.

VI PUBLIC RELATIONS

A. Recreational Uses:

Sightseeing tours of the refuge by local residents and their friends are high on the list of uses. Visitors also come from considerable distances to see the young geese, the deer, foxes and occasional

bear and to view other features of the refuge. School groups and others find much to learn from nature. During the summer the student and adult classes from the Long Lake Conservation Center spend one day of each ten day session on the refuge to study ecological relationships. Scout and 4-H groups also use the area for educational purposes. Most enjoy using the picnic area. Hunting and fishing are also big attractions.

B. Refuge Visitors:

See attached list.

C. Refuge Participation:

See attached list.

D. Hunting:

1. Deer Hunting:

For the second year the refuge was in a zone with a shortened deer hunting season and for the second year the season was shortened by two days. The result was a five day refuge hunt for deer. Although the season was shorter, hunting pressure was up slightly from the previous year and the kill was up comparably. Sixty deer were taken by 606 hunters during the five days for a success ratio of 10 per cent; the same ratio as in 1968. That year 53 deer were taken by 519 hunters. The kill ran heavy to adult deer with nearly half of the total kill adult bucks. There were 43 adults to 17 fawns among the deer checked. This heavy ratio of adults was also the case in 1968.

During both of the past two years there was no snow for the opening but conditions for tracking and visibility improved slightly later in the season. More than half (36) of the deer were taken on the opening day. Hunters in adjoining areas reported fair to poor success.

The winter carryover was low but adequate in most areas. Deer concentrated in the corn fields until heavy snow moved them into the yards. Some of these moved off the refuge to the Dam Lake area.

2. Waterfowl Hunting:

Duck hunting for divers was fair to good on lakes in the refuge vicinity. Ringnecks were the prime target species. The best mallard shooting was had on the river areas where open water remained late in the season.

B. Refuge Visitors:

| Name | <u>Organization</u> | Date | Purpose |
|---------------------|--------------------------------------|--------------|-----------------------------|
| Larry Bunge | Minnesota State Forester | 1/23/69 | Timber cruising adj. refuge |
| Harry Pinkham | U.S.G.M.A. | 2/26 | Enforcement & surplus prop. |
| Joe Wilson | Minnesota State Forester | 2/27 | Fire Warden commission |
| Lawrence Gubbe | Minnesota State area Forester | | Fire agreement |
| Henry Wolf | Minnesota area Biologist | 5/8 | Kimberly development |
| Dave Dickey | Minnesota district Biologist | 5/8 | Kimberly development |
| Ralph Chaney | U. S. Geological Survey | 6/9 | Maps re surveying area |
| Jay Paulson | Retired Horicon Refuge mechanic | 6/17 | Visit |
| Bob Balou | C.O. | 6/17 | Visit enroute |
| Wm. Aultfather | Bureau Forester | 6/18-20 | Forestry practices |
| Bob Johnson | Bureau Forester | 6/18-20 | Forestry practices |
| Claire Rollings | Regional Office- Staff Specialist | 6/24 | S&M practices |
| William Green | Biologist - Upper Miss. | 6/25-26 | Inspection |
| D. Floyd | Bureau of Indian Affairs | 7/1 | Check on Indian employee |
| T. Atkins | Maintenanceman- Arrowwood Refuge | 7/2 | Visit |
| Wm. Ellerbrock, Jr. | U.S.G.M.A. | 7/17 | Banding equipment |
| Dave Dickey | Minnesota district Biologist | 8/18 | Kimberly marsh dike |
| Bob Johnson | Bureau Forester | 8/18 | Timber Management Plan |
| Chuck Griffith | Conservation Education Officer - R.O | , | Conservation Center program |
| James Monnie | Asst. Regional Supervisor | 10/8 | Tour |
| John Ellis | Regional Biologist | 10/8 | Tour |
| Stan Devereaux | British Columbia | 10/8 | Tour |
| W. A. Morris | British Columbia | 10/8 | Tour |
| John Carlsen | Asst. Regional Supervisor | 10/10 | Enr o ute |
| R. Paulson | | Sept. & Oct. | Map refuge soils |
| J. Sharp | | Sept. & Oct. | Map refuge soils |
| Royce Lewis | Soils Scientist (S.C.S.) | 10/10 | Check refuge soils |
| Jack Gilbertson | F.H.A. | 10/30 | Rent appraisals |

In addition there were frequent visits by local residents, Mr. Les Dundas of the R.O. while instructing at the Long Lake Conservation Center and the Minnesota State Fisheries crew while engaged in fish rescue work.

| Group | Date | <u>Participation</u> |
|---|---|---|
| Aitkin County 4-H Technical Action Panel Aitkin County Deer Status | 1/5/69 1/15 | Assist with fishing contest. Monthly meeting. |
| Meeting McGregor Flower Club | 1/30 2/5 | Observe & make comments. Talk and slides. |
| Aitkin County 4-H Technical Action Panel | 2/10 2/11 | 4-H project meeting. Monthly meeting. |
| County Deer Status Meeting Arrowhead District TAP Meeting | 2/13 2/27 | Comment on refuge herd. Attend with local TAP. |
| 4-H Awards Meeting Technical Action Panel | 3/1 3/12 | Awards meeting. Monthly meeting. |
| Minnesota Forestry Div. McGregor Boy Scouts | 4/1 4/8 | Meet re fire protection. Talk and slides. |
| East Lake Cooperative | 4/18 4/18 | Talk and slides. |
| District Judge Lord Aitkin County Land Class. Comm. Methodist Youth Fellowship | 4/30 5/1 | Meet re Indian ricing. Meet re land classification. Hike on refuge. |
| 5th Grade - Hibbing, Minn. Technical Action Panel Long Lake Cons. Center | 5/13 5/14 5/15 - 16 | Refuge tour. Monthly meeting. Instructor training. |
| Aitkin Senior Biology Class Sturgeon Lake 4-H Club | 5/20 6/16 | Refuge tour. Talk and slides. |
| Soil Conservation Service Pine, Itasca, Carlton and Aitkin 4-H Clubs | 6/17 6/18 - 19 - 20 | Re refuge soils mapping. Refuge tours. |
| Long Lake Cons. Center Technical Action Panel Long Lake Cons. Center Long Lake Cons. Center | 6/26 7/9 7/10 7/24 | Demonstration & talk. Monthly meeting. Talk & banding demonstration. |
| Technical Action Panel Long Lake Cons. Center Long Lake Cons. Center | 8/6 8/7 8/21 | Monthly meeting. Talk & demonstration. Talk & demonstration. |
| Aitkin Counth Land Class. Comm. Minnesota Conservation Dept. Indian Ricing Committee Brainerd VocTech. School | 8/28 9/2 9/3 9/9 | Meet re land classification. Meet re ring-neck banding. Meet re Rice Lake ricing. Talk and tour, Cons. class. |
| McGregor Flower Club Long Lake Cons. Center Trumpeter Swan Society | 10/1 10/8 10/8 | Attend meeting. Attend banquet. |
| Technical Action Panel Bird Club | 10/9 10/12 | Attend meeting. Monthly meeting. Refuge tour. |
| Technical Action Panel | 11/12 | Monthly meeting. |

In addition there were many small refuge tours for visitors and miscellaneous small groups.

Canada geese fed in local fields off the refuge and provided some shooting for mostly local hunters. Total kill was moderate, usually made by sneaking up on feeding birds in fields or on local streams. Blue and snow geese were not plentiful enough to provide much action.

3. Grouse Hunting:

A ruffed grouse season was held on the refuge for the first time. Hunting pressure was light to moderate. Birds were not plentiful enough to provide good hunting and kills were generally light. The most common question asked by hunters was, "Why was it opened?" Those hunters with good dogs experienced the most success.

E. Fishing:

The refuge fishing season provided many hours of fishing from May through September. Some days success was better than others but there were always some northern pike in evidence on stringers. Bullheads were also taken quite readily. The bridge with its fishing walks was most appreciated by the older folks. The ardent bait-casters used the boat ramp and other shoreline spots.

F. Violations:

Many hours were spent on patrol of the refuge with most contacts of an educational nature. Violations were prevented in several instances, especially those of trespass. One case of shooting at a deer in a closed area from a car was reported but no evidence of a kill could be found. There was some evidence of night ricing before the season but late waits brought nothing more than cold and tired bodies of refuge personnel. Some snowmobile trespass also developed. Generally, behavior by most refuge visitors and hunters was good.

G. SAFETY:

SAFETY meetings were held periodically with all personnel participating. As conditions or practices needing correction were noted, they were immediately brought up and discussed in pre-work meetings also.

No serious injuries or lost-time accidents were experienced during the year and the crew is to be commended.

VII OTHER ITEMS

A. <u>Items of Interest</u>:

The Refuge Manager prepared Section I, part B, Section II, Section III, part A, Sections V, VI, VII, of this report. The Biological Technician prepared Section I, part A, Section III, parts C., D., E., Section IV and also assembled and typed the report.

Under the revenue sharing program a check for \$3,025.47 was presented to the Aitkin County Auditor for use on schools and roads.

The Refuge Manager served as 4-H leader in Conservation and in photography. He also served on the Aitkin Technical Action Panel and on the County Land Review Panel during 1969.

All photographs were taken and processed by the Refuge Manager.

SIGNATURE PAGE

Submitted by:

Carl E. Pospichal Refuge Manager

Title

Date: March 13, 1970

Approved, Regional Office:

Date: 3-16-70

James B. Monnie (Signature)

Regional Refuge Supervisor

69-1

Thornbloom at white cedar stripped by a black bear. Claw marks are visible. C.E.P.



69-2

Typical damage to oak tree by bear seeking acorns.

C.E.P.

W.



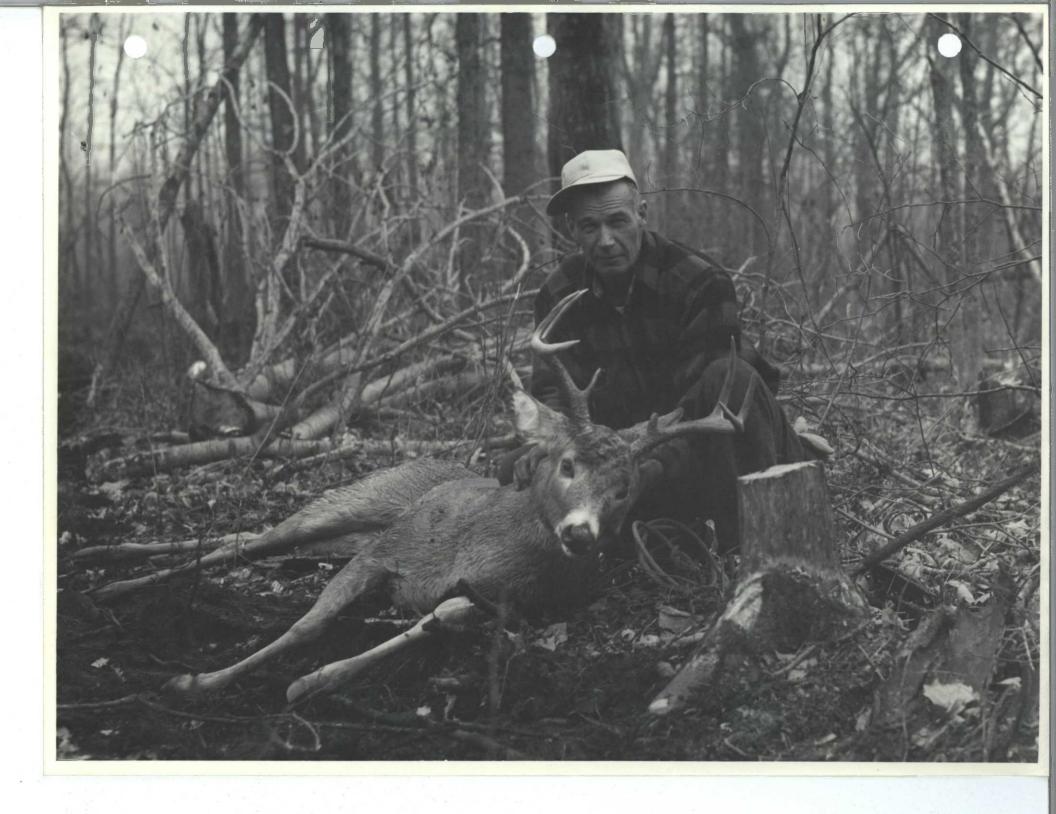
White-tail carrion cached by a back bear. The bear was observed by Thornbloom and Pospichal to drag the carcass from a water-filled ditch and eat the viscera. It later returned and took the remainder. Cause of deer's death unknown.



Beavers took advantage of the situation at the Freeman Bridge, township road on south refuge boundary.



Hurd poses with a very nice white-tail.



A real artifact. Ancient dugout canoe as it was found in Twin Lake.

C.E.P.

N.



The dugout as it appeared after salvage by Pospichal and son, Mark. Its waterlogged condition made it heavy and slippery to handle, fragile as it appeared. Mark had located it a year earlier but did not get as excited about it as some of the later viewers.



Another artifact worth consideration. Hand-hewn log buildings such as this house were true works of skilled Scandanavian craftsmanship in the early days of this area.



Though the temperature was well below zero, this saw-whet owl appeared content to sleep in the winter sunshine.

C.E.P.

*



A young naturalist intensely interested in a successfully hatched ruffed grouse egg.

C.E.P.

#/



What are you doing up here?

C.E.P.

1



Since it snowed most of the night, this porcupine apparently came home mighty late. Bachelor quarters?

C.E.P.

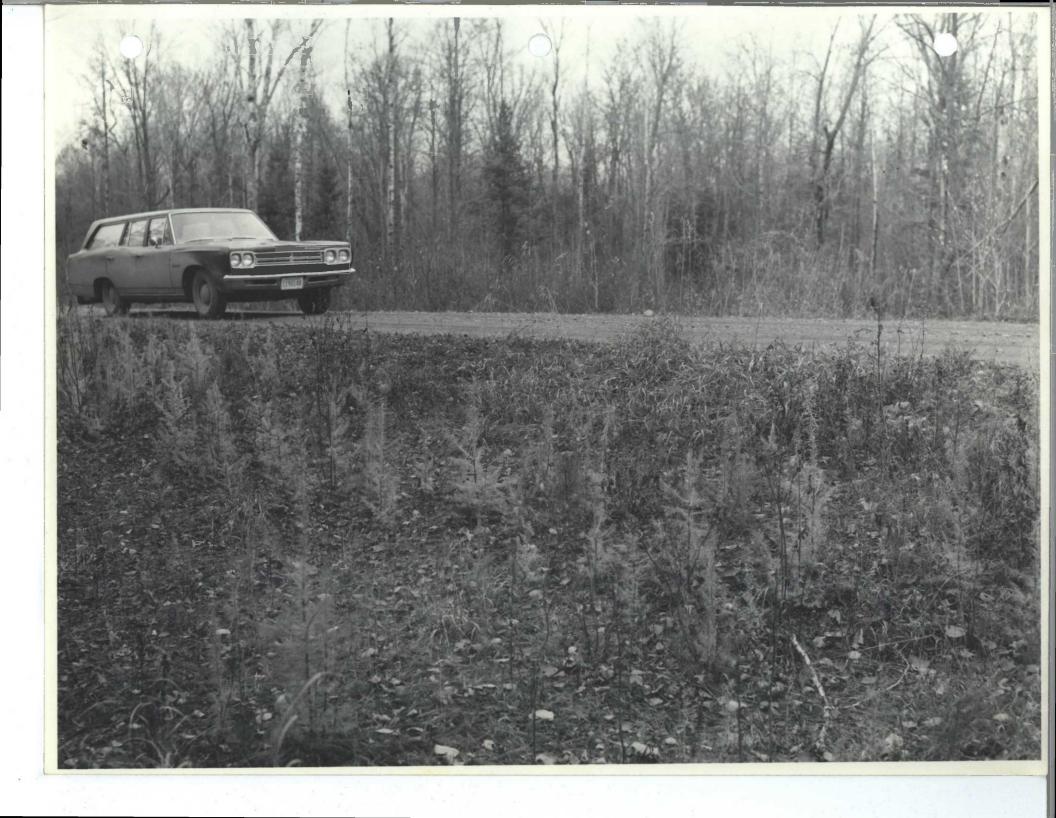
W.



Natural tamarack reproduction on roadside area scalped to mineral soil.

C.E.P.

W.



Natural red pine reproduction on higher ground, also scalped for trail construction. This practice has shown good results in other promising areas. White pine, spruce and balsam have also come in, along with aspen, hard maple, white birch and other species.

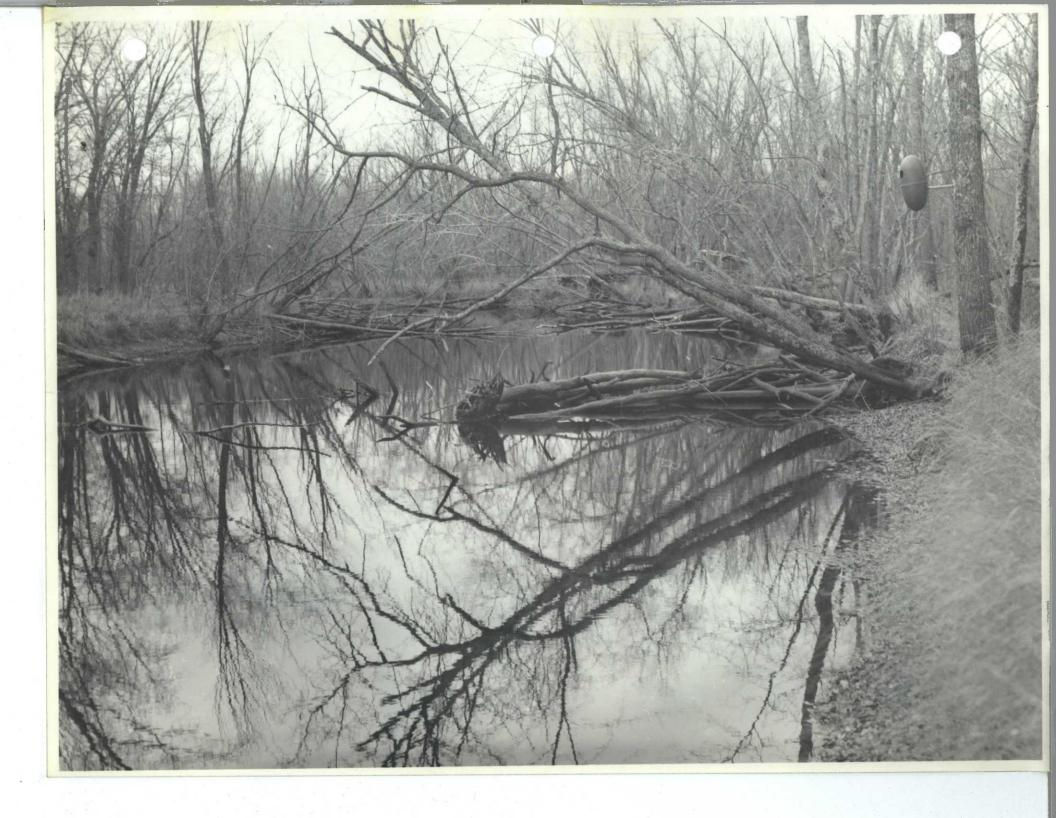
The white pines in the background are favored bald eagle roosts used by several birds during the fall months.



A fall view of typical Rice River wood duck habitat. Nesting capsules are fiberglass.

C.E.P.

ar.



A new, glass-roofed gas pump cover complete except for end caps. Record box is mounted on pump.



Hurd working on one of ponds and potholes constructed or rehabilitated during 1969.



The going got pretty tough in the deer yards in January.



Typical plug thrown across drainages to retain spring runoff water in low areas and create waterfowl habitat.



(Rev. March 1953)

WATERFOWI. (Continuation Sheet)

TO April MONTHS OF 19 69 Rice Lake . January REFUGE (3) (7) Wotal Production: . A summary of data recorded 5 lider (4)Weeks of reporting periods : Estimated Production Merchand : mapes of Ascence April: send on: 13 :20 26: 27-3 ce: waterfowlor (6) Peal(I)mber: :Broods: Estimated 9 11 15 :16 1222:23 1329: 30-5: 615 12 19 : 17 : 18 : days use : seen : total Species Swans: 10 10 Whistling 10 210 Trumpeter two or more areas aggregating Geese: Canada 15 500 350 150 m s 199 548 r conuc ou le 250 50 Cackling Brant Average White-fronted Snow Blue DOLLTUE LGLIOGE avera Other Ducks: 300 500 1.500 800 Mallard 10 21,770 100 200 100 Black 2.800 Gadwall 1,500 1,000 Baldpate 250 19.250 2,520 Pintail 10 200 100 50 Green-winged teal 1.000 10 300 9_170 Blue-winged teal 17-850 2.000 500 Cinnamon teal Shoveler 2,520 250 100 10 Wood 10 30 500 500 7-280 Redhead 50 50 700 Ring-necked 6-650 350 500 100 Canvasback 150 50 1.400 Scaup 1-000 2-500 25_550 150 Goldeneye 250 100 3.850 200 Bufflehead 1.470 10 100 100 Ruddy Other Hooded Merganser 100 5,600 250 300 150 Coots: 500 1,270 100 10 100 50 Common Herganser 10 20 210 Red-breasted Merganser wer) 210 10 Greater Scaup

| (5) | (6) | (7) | 40 |
|-----------------------------------|-----------|--|--|
| | 2 2 6 | r : Total Production | SUMMARY |
| Swans 210 | 10 | | Principal feeding areas Rice Lake, Rice River Pool, |
| Geese 9,548 | 500 | | small pools and impoundments and fields. |
| Ducks 129,920 | 8,750 | | Principal nesting areas |
| Coots 4,270 : | 500 | | 120 20 200 |
| Shoyeler Wood | | | Reported by Carl & Paris al |
| Blue-winged teal Cinnamon teal | | 100 | Carl E. Pospichal; Refuge Manager |
| (1) Species: | In additi | on to the birds listed period should be adde | on 7534, Wildlife Refuges Field Manual) d on form, other species occurring on refuge during the ed in appropriate spaces. Special attention should be |
| Ducks: Mallard | given to | those species of local | L and national significance. |
| (2) Weeks of Reporting Period: | Estimated | average refuge popula | ations. |
| (3) Estimated Waterfown Days Use: | | eekly nonulations y n | mber of days present for each species. |
| Cackling | | | |
| (4) Production: | sentative | breeding areas. Broo | deed based on observations and actual counts on repre- od counts should be made on two or more areas aggregating distinates having no basis in fact should be omitted. |
| (5) Total Days Use: | A summary | of data recorded unde | er (3). |
| (6) Peak Number: | | | sent on refuge during any census of reporting period. |
| (7) Total Production: | A summary | of data recorded unde | |

MONTHS OF James y

Interior Duplicating Section, Washington, D. C. Markey 1953 Cor NR-1

3-1750a

Ricc Lake .

prester Seaup Red-breasted norgan

燛

W. TERFOWL

| (1) | Jan. | | Week | | | P 1 9 | perio | | Mar. | |
|------------------------|-------|-------------------|----------|--------------------|--------------|--|---|------------------|-----------------|---------|
| Species | 1 1 4 | 5 ² 11 | 12 -3 18 | 19 ⁴ 25 | 26 - 1 | 2 6 3 | 9 7 15 | 16 - 22 | 23 -91 | 2 10 |
| wans: | | . Parket | | | | | | | | |
| Whistling Trumpeter | | | | | | | | | | |
| eese: | , | | | | BEAT LAND | 137 | | 15 x y | | |
| Canada | . 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | - | - |
| Cackling | _ | | | | | | | | | |
| Brant | | | | | | | 7 7 2 1 1 4 2 8 G | | | Alessa. |
| White-fronted | | | | | | | The state of | Ceanne o | | |
| Snow | | | | | | | | | | |
| Blue | v | | | | | | | | | |
| Other | | _ | | | | | | | 100 | 33 |
| ucks: | | | | | | | | La Carte Control | | |
| Mallard | | | | | | 1 | 1 3 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | N. N. W. | |
| Black | | | | | | 2 200 | The Republic of | - 10 | | |
| Gadwall | | | | Sa 14 | | | | | | |
| Baldpate | | | | | I de la lace | | | | | |
| Pintail | - 1 | 1 1 | | | | | | | | |
| Green-winged teal | | | | | | 200 | | | | |
| Blue-winged teal | | | | | | · / | | | | |
| Cinnamon teal | | | | 2 | | 1(0) | 新·斯奇科斯斯 | | SA ALTONOS . TO | |
| Shoveler | | | | | 10.24 | The state of the s | and the state of | | 70- | |
| Wood. | | | | | 1 11 | | 100 | | 30 | |
| Redhead | 1 | | | | | | | | | |
| Ring-necked | 4.5 | | | | | | | | | |
| Canvasback | 25 | | | | | | | | | |
| Scaup | | | | | | | 100 | | | |
| Goldeneye | 72 | | | 4.0 | A contract | | William France | 43 43 | * | |
| Bufflehead | | | | | | | | | | |
| Ruddy | 1953 | | | | | | | t sixing | Section Control | |
| Other | | | 131 2 | line o | | | | | | |
| g la | | | | | | | | | | |
| oot: | | | | | | 1 | | | | - |

Form NR-1

(Nov. 1945)

Estimated total number of th WICKALC BIKDS the refuge during the period concerned.

(other than waterfowl)

Months of to April 19569

59319

| (1) Species | First | | Peak N | 3) umbers | | 4) Seen | concerned | (5) Production | ņ. | (6) Total |
|---|---|------------------------------|-----------------|--|-----------------------|----------------------------------|--|--------------------|----------------|--------------------|
| Common Name | Number | Date | Number | Date | Number | Date | Number Colonies | Total # Nests | Total Young | Estimate Number |
| I. Water and Marsh Birds: | 01.000 | | IV. PEG | groeona | | | s, Strigh | | rilormes) | |
| common Loon ied-billed Grebe corned Grebe bli broat Blue Heron | a, other at space at space at scance | 4/18 3/24 4/20 3/24 | 100 30 30 | \$/20 \$/12 \$/22 \$/10 | Sunmer | resident (GSATTIO resident | a pares rmes to C haradriif es) | contifor ormes) | deserted | but nest |
| ouble-created Cornerant Nos merican Dittern andhill Grane | J COLI | 4/18 4/12 | Common Summer | Committee and the second | esident | e Legale | | River fo | ra new c | clony. |
| Selted Kingfisher | 3 20 20 20 20 20 E | 6/10 | Commo | The second secon | esident | Reported | pλ | | | |
| I. <u>Shorebirds, Gulls and</u> <u>Terns</u> : | 7 | 5\3 5\5 1\87 | Commo | | er: some | r reside | para (Tri) | | | |
| ettai acceptationlege implificationali erring fall | 1 1 7 7 3 | 4/26 4/26 4/8 4/16 | | by 4/29 | mer resident summer i | esident | | | | |
| I. Doves and Pigeons: Mourning dove White-winged dove | 70 | 4/34 | | | Pool Sand | | | - | | |
| (1) | (5 | | (3 | (over) | (4 | - | | (5) | | (e) |

| (1) | (5) | (3) | (4) | (5) | (6) |
|--|------------------|--|-------------------|----------------------|---------|
| II. <u>Doves and Pigeons</u> : Mourning dove White-winged dove | 10 4/14 | Uncommon summer | resident | | |
| IV. Predaceous Birds: | | | | | |
| Gorden eagle | 1 3/8 | 12 4/3 | Summer resident | 1 | |
| Duck hawk | 2 4/8 | Fairly common s | ammer resident | | |
| Horned owl | Year-round resid | ent; eccasional ob | servation | | i i |
| Magpie | Committeel wants | sighting | SOURSE SESTIONS | | |
| Raven | 2 1/21 | | tory fairly comes | | |
| Crow | 1 VII | A STATE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN | anr resident | 10 | |
| Sathern Shribe | 1 1/11 | Connor during w | | | |
| Complete Contraction | 1 2/2 | | April in smell es | shers (1-5) | |
| Barred Cud de Chille Este | 1 2/12 | | and resident | | |
| Snewy Cul | 1 3/26 | | this winter | 1 1 | |
| Saw Whot Cul | 1 3/28 | | | | |
| Goshavic | 1 2/20 | Occasional | | | |
| Hareb Hawk | 1 3/22 | 30 Summer | resident | La be Cl | |
| Rough-logged Hawk | 3 3/25 | | and vis. | A North | LALAMAN |
| Scarrow Baste | 3 3/29 | 50 Summer | Reporte | а Бу | |
| Costo | 1 4/15 | INSTRUCTIONS | er visitor | 1 | |
| (1) Species: Use | 1 5/25 | | | 1931 Edition, and li | |

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National

significance. Groups: I. Water and Marsh Birds (Gavilformes to Ciconiiformes and Gruilformes)

II. Shorebirds. Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

#\18

Waler and Marsh Birds:

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) tal: Estimated total number of the speci using the refuge during the period concerned.

INT.-DUP. SEC., WASH., D.C.

59317

Estimated

(1)

Species

Ruffed Grouse

Woodgook

17059

Months of Refuge (3) (4) (7) (2) (5) (6) Young Sex Density Removals Total Remarks Produced Ratio Number broods obs'v'd. Estimated Total For Restocking
For
Research Estimated Hunting Le cover types. Pertinent information not number Acres Cover types, total using specifically requested. per List introductions here. acreage of habitat Bird Percentage Refuge Common Name 5.000 acres 25 First drugging board on 4/16: 200 timber and brush at end of period there seems to be less dramming than at the same time in 1968. Sharp-tailed Grouse 1,200 seres grass, 120 10 Consider beerwation of brush & eropland 1-3 during wister and springi status lewadmuon Isudos bas anoldavisado nico berad 8_000 acres No sightings to end of April. tisber, brush, grassland and in each cate ony removed during the report period Indicate total number Estimated total nather using the riving during the report period. This may anceses alarse gained eguier edd othe gail erabt esond sufa include resident finds determine topulation and area covered in survey. Also .bedeeuper wilsolf toegs for foldsmothi

* Only columns applicable to the pariod covered should be us

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

| (1) | SPECIES: | Use correct common name. | | |
|-----|-----------------|--|---|---|
| | DENSITY: | Applies particularly to those species consider hunts, etc.). Detailed data may be omitted for numbers. Density to be expressed in acres per information is to be prefaced by a statement from the number of acres in each cover type found on the information need not be repeated except as significant to the statement of the statement of acres in each cover type found on the information need not be repeated except as significant to the statement of t | r species occurring in li- animal by cover types. T rom the refuge manager as e refuge; once submitted, nificant changes occur in | mited his to the this the area |
| | | of cover types. Cover types should be detailed information but not so much as to obscure the swamp, upland hardwoods, reverting agriculture grass prairie, etc. Standard type symbols list Nc. 7 should be used where possible. Figures a observations and counts on representative sample size of sample area or areas should be indicated. | general picture. Example land, bottomland hardwood ted in Wildlife Managemen submitted should be based le areas. Survey method | s: spruce ds, short t Series on actual |
| (3) | YOUNG PRODUCED: | Estimated number of young produced, based upon in representative breeding habitat. | observations and actual | counts |
| (4) | SEX RATIO: | This column applies primarily to wild turkey, pother species if available. | pheasants, etc. Include | lata on |
| (5) | REMOVALS: | Indicate total number in each category removed | during the report period. | |
| (6) | TOTAL: | Estimated total number using the refuge during include resident birds plus those migrating in | | |
| (7) | REMARKS: | Indicate method used to determine population are include other pertinent information not specific | | Also |

Form 7-2 (April 1946)

^{*} Only columns applicable to the period covered should be used.

SMALL MAMMALS

| Refuge New Labor | Year | ending | April | 30, | 1269 |
|------------------|------|--------|-------|-----|------|
|------------------|------|--------|-------|-----|------|

| (1) Species | (2) Density | ios al pi | 8 | | (3) ovals | Sage | 0689 C (317 | | isposit | | Firs | ¥3 . 60 | W BI | (5) Total |
|---|---|------------------------|------------|----------------|---------------------|----------------|----------------|--------------------------|-------------------|--------|------------------------------|--------------|-------------------|-----------|
| 13742 3 | Aldarkes, but he eve A rest bist? soi ni b | and treat | agu agu | 101 | .let | riups At ab | BO D | Shar | e Trapp | ing | nge | ted | | Popula |
| Conmon Name | Cover Types & Total Acreage of Habitat | Acres Per Animal | Hunting | Fur Harvest | Predator Control | For Restocking | For Re- | Permit Number | Trappers Share | Refuge | Total Refuge Furs Shipped | Furs Donated | Fure Destroyed | tion |
| Badger | Content types, willie in | 3 800 L BU | 7.3 | 5 5 5 | 0.8.0 | 1 Dec | 19797 | 26 GG 7 | d kamaû | | 1. | | | 10 |
| Dograf Problish Green | Address of the contract of | 5 55 58 | 20.3 | 3 | 12000 | A STATE | N A P | earna In | I nois | | | | | Theomeon |
| 13-lined Second Se | | Jesus | Beg | 155 | 19.3 | res h | 35 5 | lasaroli | l aini | | | | | V. Commo |
| Sportston Facilities |) or day-on backers of | Diamete | Sa Brill | (2 W | ep.D | . 870 | J- 120 | roo lo se | ns end | | | - | | Selenion |
| Cottontail Mabbit | obsesse the general pr | of se de | 17:21 | ia hi | er to | 5 38 2 | aurio | tal beat | sh ship | | | | | Pare. |
| to bettee | ial murin. The goldren | ar jabos | WAT | nd be | elgo | , Qour | n gh | rige le | T-THANK | | | | | 50 |
| Buskrat | if alodaya toya brabal | Ja out | - | 1118 | 0 88 | 818 7 | ona. | a booking | M Baai | | | | | 209 |
| Otter - | ed where powerble. Fig | au so b. | red | 1 : | oM s | e FraB | tasm | BULEN 6 | TIPLE | | | | | 10 |
| Forcupino | and orunts on tepresen | and Liev | BHC | [.Bs | d sus | THE LET | tri s | bl words | Ded dis | | | | | 700 |
| Raccoom od binos | swarm in sain algebra | lo sala | DI B | ine si | 308 | | PULL | BRALB | a Lombe | | | | | 300 |
| Striped Skunk | | | | | 30 | - axt | men. | rebow has | so len! | | | | | 200 |
| For Squirrel | | | | | | | | | | · · | | | the selection | December |
| Gray Squirrel | A trank sints bewoner | Anderina | | 19 19 | 1 | 19 E ELL | 1 | 1 | estbal | | | 1 S.J.R. | DIE | Common |
| had Squirrel And y | tar about an ivine of man | | me. | 39 1.8 | - Various | | inclu | | 1 | | | | | I Comm |
| Flying Squirrel | der bestlagsliebei. | C BULLY | 1 3 | eff 81 | STOR | as Ku | 100 | OPIA | Hunter | | | | | Comeon |
| Ch4.perunik | the second second | redoun | 910 | | | | U.S. 5 | | 100 m | . 5157 | TO 10 | - R 25 | GD TO | (E) Comm |
| Seasol Stale Saula | trapperts where sad a | andrem or | 1.10 | 18 14 1 | 124 4 | SII | | eggarii —a: eg adi a: | Indica | 1208 | CO MC | 23 201 | Str Las | Cone |
| Woodchuck v752 vd. | sense since and an income and | ene dose | 1.0 | # 2 Ta | 950 | TRUE | 1 | of la | | | - | | | 20 |
| THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED | seise to anatigitiani | o belan | A 38 | 199 | ME | co lit | CCCC | egasab | 0 8890 | - | | | | 10 |
| Coyote -79 loaws | | and a series | oni | OTT | #Immit | or an | 1 | | b Luorie | 1 | | | | 10 |
| | Predator Animal Hunter | P | 1 | many. | - | A STATE | 254 | and do | N KON WATER | | | | | |

REMARKS: Funkrate were down considerably from last year; Paccooms do not appear to be quite as numerous and coyotes have increased; five were seen our day in Farch. It is not a produced to the constant of t

Reported by

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

(1) SPECIES:

Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)

(2) DENSITY:

Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) REMOVALS:

Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headingslisted.

(4) DISPOSITION OF FUR:

On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

(5) TOTAL POPULATION:

Estimated total population of each species reported on as of April 30.

REMARKS:

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

WTERFOWL

| | : May | | | s of | report | ting | perio | | July | |
|--------------------|-------|---------|--------|---------|----------------|--------------------|---------|---------|----------|--------------------|
| Species | 4 110 | 11 2 17 | 18 324 | 25 4 31 | June 1 -5 7 | 3 -6 ₁₄ | 15 -721 | 22 -823 | :29 -9 5 | 6-12 ¹⁰ |
| Swans: Whistling | | | - | | 1 | | | | | |
| Trumpeter | | | | | † | | | - | | + |
| eese: | | | 1 | | | | | | | + |
| Canada | 150 | 150 | 200 | 250 | 270 | 280 | 250 | 300 | 250 | 25 |
| Cackling | | | | | | | | | | — |
| Brant | | | | | | | | | | |
| White-fronted | | | | | | | | | | |
| Snow | | | | | | | | | | |
| Blue | | | | | | | | | | |
| Other | | | | | | | | | | |
| .cks: | * 000 | * 000 | | 200 | 7 = 45 | 400 | 700 | 700 | 220 | |
| Mallard | 1,000 | 1,000 | 500 | 400 | 600 | 600 | 30 | 700 | 800 | 8 |
| Black Gadwall | 200 | 30 | 30 | 10 | 30 | 30 | 30 | 30 | 40 | F ' |
| Baldpate | 1,000 | 1,000 | 500 | 500 | 500 | 400 | 400 | 400 | 500 | 5 |
| Pintail | 30 | 30 | 10 | 300 | 330 | 400 | 100 | -00 | 300 | + 2 |
| Green-winged teal | 1,000 | 1,000 | 500 | 200 | 200 | 200 | 300 | 300 | 300 | 3 |
| Blue-winged teal | 1,500 | 1,200 | 1.000 | 600 | 600 | 600 | 800 | 800 | 800 | 1.0 |
| Cinnamon teal | | | | XVV | | | - | | | + |
| Shoveler | 100 | 100 | 20 | 10 | 10 | 10 | 10 | 10 | 20 | 1 |
| Wood | 500 | 500 | 700 | 800 | 900 | 1.000 | 1,200 | 1,200 | 1.200 | 1,2 |
| Redhead | 50 | 50 | | | | | | | | + |
| Ring-necked | 800 | 500 | 400 | 50 | 50 | 50 | 70 | 70 | 70 | |
| Canvasback | 100 | 100 | 50 | 10 | 10 | 10 | 20 | 20 | 20 | |
| Scaup | 3,000 | 3,000 | 2,000 | 500 | 20 | 20 | 30 | 30 | 30 | |
| Goldeneye | | | | | | 12 | 12 | 12 | 12 | |
| Bufflehead | | | | | | | | | | |
| Ruddy | 320 | | 100 | 77.5 | | | | | | |
| Other Hooded Merg. | 150 | 150 | 100 | 200 | 250 | 250 | 250 | 250 | 250 | 2 |
| 1.00 | | | | | | | | | | |
| oot: | 500 | 500 | 100 | 50 | 50 | 100 | 100 | 100 | 100 | + ₁ |

WATERFOWI. (Continuation Sheet)

| | 0 | | | (2) | | | | | : (3) | | (4) |
|--------------------|-------------|----------|--------|--------|-------|-------|---------|--------------------------------|-------------|----------|----------|
| | | eeks | | | | | | | : Estimated | | action |
| (1) | : 13 - 19 : | 20 - 26: | 27 - 2 | 3 - 9: | 10-16 | 17:23 | 24-30: | | : waterfowl | | Estimate |
| Species | : 11 : | 12 : | 13 | : 14 : | 15 : | 16 | 17 : | 18 | : days use | : seen : | total |
| wans: | | | (5) | | | | | | - | | |
| Whistling | | | | | | | | - | | | |
| Trumpeter | | | | | | | | | | | - |
| Geese: | | | | | | | | | | - | MEST LA |
| Canada | 300 | 300 | 350 | 350 | 350 | 350 | 400 | | 33,250 | 30 | 190 |
| Cackling | | | | | | | | | | | |
| Brant | | | | | | | | | | | |
| White-fronted | | | | | | | | | | | |
| Snow | | | | | | | | | | | |
| Blue | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| Ducks: | | | | | | | | | | | |
| Mallard | 800 | 800 | 1,000 | 1,000 | 1,200 | 1,500 | 2,000 | | 107.800 | 20 | 250 |
| Black | 40 | 40 | 50 | 50 | 100 | 150 | 200 | | 7,140 | 1 | 15 |
| Gadwall | | | | Lucia | | | | | | | |
| Baldpate | 500 | 600 | 600 | 600 | 200 | 700 | 800 | | 71,400 | 18 | 300 |
| Pintail | | | 10 | 30 | 50 | 50 | 200 | | 3,110 | | |
| Green-winged teal | 300 | 300 | 300 | 400 | 400 | 400 | 500 | | 48,300 | 12 | 150 |
| Blue-winged teal | 1,000 | 1,000 | 1,000 | 1.000 | 1,200 | 1,200 | 2,000 | | 121,100 | 26 | 320 |
| Cinnamon teal | | | | | | | | | | | |
| Shoveler | 20 | 20 | 20 | 20 | 20 | 30 | 30 | | 3,290 | | 10 |
| Wood | 1,200 | 1,200 | 1,200 | 1,200 | | 1,500 | 1,500 | the Chatter Standard and to St | 128,800 | 32 | 350 |
| Redhead | | | 10 | 10 | 20 | 20 | 30 | | 1,330 | | |
| Ring-necked | 70 | 70 | 70 | 80 | 80 | 80 | 100 | | 18,760 | 2 | 30 |
| Canvasback | 20 | 20 | 20 | 20 | 20 | 20 | 20 | | 3,500 | 1 | 3.0 |
| Scaup | 30 | 30 | 30 | 29 | 20 | 20 | 20 | | 61,810 | | 10 |
| Goldeneye | 12 | 12 | 12 | 12 | 12 | 12 | 12 | | 1,008 | | 10 |
| Bufflehead | | -6-45 | | A.G. | | - | | | 3,000 | | |
| Ruddy | | | | | | - | | | | A I A | |
| Other Hooded Merg. | 250 | 250 | 250 | 250 | 250 | 250 | 250 | | 26,950 | 13 | 150 |
| Coots: | | | | | 25/9 | 2000 | ALCONO. | | | 2.0 | |
| COO C S . | 100 | 100 | 100 | 100 | 100 | 100 | 100 | | 16,300 | 7 | 50 |
| | | | (40) | | over) | | | | , | | |

| Total Days Use : | (6) Peak Number : I | (7) otal Production | SUMMARY |
|---|--|---|--|
| Swans | | | Principal feeding areas Rice Lake, Rice River, other |
| Geese 33,250 | 406 | 150 | lakes and pools. |
| Ducks 604,298 | 9,350 | 1,605 | Principal nesting areas Islands and shorelines of |
| Coots as 16,800 : | 560 | `50 | abové areas. |
| Shoveler | T*308 X*8 | 10 - 1 000 1 000 20 - 30 - 30 | Reported by |
| Blue-winged teal Ginnamon teal | \$5000 \$500 | in Trains levins | Carl E. Pospichal; Refuge Manager |
| | | | d in appropriate spaces. Special attention should be |
| (2) Weeks of Reporting Period: | given to those | | and national significance. |
| (2) Weeks of Reporting Period: (3) Estimated Waterfowl Days Use: | given to those Estimated aver | species of local | and national significance. |
| (2) Weeks of Reporting Period: (3) Estimated Waterfow Days Use: (4) Production: | given to those Estimated aver Average weekly Estimated numbers sentative breed | species of local age refuge popula populations x nu er of young produ ding areas. Broo | and national significance. tions. |
| (2) Weeks of Reporting Period: (3) Estimated Waterfown Days Use: (4) Production: | Estimated aver Average weekly Estimated numbers sentative breed 10% of the breed | species of local age refuge popula populations x nu er of young produ ding areas. Broo | and national significance. tions. mber of days present for each species. ced based on observations and actual counts on repred counts should be made on two or more areas aggregating stimates having no basis in fact should be omitted. |
| (2) Weeks of Reporting Period: (3) Estimated Waterfowl Days Use: (4) Production: | Estimated aver Average weekly Estimated numbers sentative breed 10% of the breed A summary of definitions. | species of local age refuge popula populations x nu er of young produ ding areas. Broo eding habitat. E ata recorded unde | and national significance. tions. mber of days present for each species. ced based on observations and actual counts on repred counts should be made on two or more areas aggregating stimates having no basis in fact should be omitted. |

Interior Duplicating Section, Washington, D. C. 1953

3-1750

UNITED STATES Form NR-1B DEPARTMENT OF THE INTERIOR (December 1956) Fish and Wildlife Service

WATERFOWL UTILIZATION OF REFUGE HABITAT

| D GAT | BUREN DEL | | ma 47 a | | | |
|--------------------|--|---------------|----------|----------------|-----------------------------------|-------------------|
| Reported by C | arl E. Po | | Title_ | Refuge Mana | | |
| (1) | (2 | | DOTTONS | (3) | (4) | (5) |
| Area or Unit | Habi | tat | that, be | Jimu Institut | Breeding | Area or Uni |
| Designation | Type | Acreage | itat typ | Use-days | Population | Production |
| os Lake ad b | Crops | reas in th | Ducks | 1.750,089 | 650 | 300 |
| | Upland | | Geese | 20,000 | Sect Village | 31 |
| | Marsh | 508 | . Swans | 3.000 | - | |
| | Water | 4,500 | Coots | his oco | 50.00 | 50 |
| bns | Total | 5,000 | . Total | 2,218,000 | 702 | _130 |
| o c o o o o o | Crops | E0 20 C0 0 11 | Ducks | | Herotrops » | |
| ce River Pool | | 240 | Geese | 580,000 | 300 | _180 |
| | | 1.550 | . Swans | 20,000 | 12 | _20 |
| nose | A STATE OF THE PARTY OF THE PAR | 1,200 | Coots | 3,000 | 16 -000 | |
| di | Total | 2,000 | Total | 603,000 | 202 | 200 |
| | | - P | | | | A + > 6 4 |
| e River and | Crops | d consists | Ducks | 209,000 | _1,150 | _500 |
| Tributaries | Upland | 245 | Geese | 35 600 | | 40 |
| bru | Marsh | 350 | . Swans | To Market Land | The Annual Property of the Parket | |
| | Water | 65 | . Coots | 2,000 | deep man | |
| | Total | 650 | . Total | 237,010 | _1,180 | -540- |
| 0 0 0 0 0 0 0 0 | Chang | no e e e | Ducks | e zas zosses | Sursions | |
| nds, Potholes | Crops Upland | 7.00 V | Geese | 151,008 | -980 | 175 |
| and Ditches | Marsh | 1.065 | Swans | 2,000 | 46 | 60 |
| | Water | 25 | Coots | 600 | | |
| des | Total | 1.303 | Total | 158,378 | 1-036 | 202 |
| | * * * * * * | | 4 6 4 9 | * 0 1 9 0 9 | | -535 |
| ady and Twin Lakes | Crops | | Ducks | 25-000 | 100 | |
| | Upland | 7(0) | . Geese | 500 | irrow meric | |
| | Marsh | 100 | . Swans | - ARRESTOR & | true and the | |
| | Water | 106 | . Coots | 500 | _00 | - |
| -16 | Total | 276 | . Total | 26,000 | 7186 | -50 |
| ricultural Unite | Crops | 2/4 | Ducks | 101_/20 | _300 | -50 |
| 1 | Upland | 97 | Geese | 17 810 | An entite | Present |
| | Marsh | ach are | . Swans | 7 10 VT099 | speciose vi | Poor Lake |
| | Water | | . Coots | | | |
| nt age. | Total | 338 | Total | 209,262 | 100 | Produci 02 |
| and Totals | Crops | 241 | Ducks | 2,897,428 | _3,280 | 1,605 |
| 4 4 4 | Upland | RVAT | Geese | 100, 202 | 100 | 1 CO |
| | Marsh | 3,555 | Swans | 3,010 | - | |
| | Water | 5 914 | Coots | 450.870 | _50 | 50 |
| | Total | 10.567 | - Total | 3,451,650 | 3,430 | 1,805 |

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August narrative report.

INSTRUCTIONS -

- A geographical unit that, because of size, terrain (1) Area or Unit: characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. Estimated acreage of each unit should be indicated.
- Crops include all cultivated croplands such as (2) Habitat: cereals and green forage, planted food patches and agricultural row crops; upland consists of all uncultivated terrain lying above the plant com-Hand dowld sold munities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the been wowlfl on " relatively stable marginal or shallow-growing emergent vegetation type including wet meadow and deep marsh; and the water category includes all other water areas inundated most or all of the growing season and extends from the deeper edge of the marsh zone to strictly open-water areas, embracing such habitat as shallow playa lakes. deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for each type should be kept as accurate as possible through reference to available maps supplemented by periodic field observations and should agree with unit acreage.
- (3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven. Grops see . Ducks Arriaglizard Units
- (4) Breeding An estimate of the total breeding population of Population: each category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.

69 608 600 2 000 2

gha . Ducks 2,809, bes Interior Duplicating Section, Washington, D. C. 1956 State . Coots

Water

alatel knash

Estimated total number of the widesto BINDS the refuse during the period concerned.

(other than waterfowl)

(Nov. 1945)
Refuge Rice Lake

Months of May to August 1969

89319

| (1) Species | First | 2) Seen | | 3) umbers | | 4) Seen | concerned | (5) Production | 3 | (6) Total |
|--------------------------------------|-------------|------------|-----------|--------------|-----------|------------|-----------------|-------------------|----------------|--------------------|
| Common Name | Number | Date | Number | Date | Number | Date | Number Colonies | Total # Nests | Total Young | Estimate Number |
| (2) First Seen. The | first M | Ture reco | rd for W | a species | for the | season co | ncerned. | Labor | riformes) | |
| I. Water and Marsh Birds: | | | IV. PE | gacsona j | Fige (Ler | COUTIOLDS | s, Strigi | | | |
| Common Loon | Summer | iesident | III. Do | es sug E | REODE LOS | TEMPTIOLS | | | | 20 |
| Pied-billed Grebe | | | II SP | Lepylde | Sulls and | Terms (c | | ormes) | | 250 |
| Horned Grebe Great Blue Heron | | ligrant | 1 I HS | er and Me | ran Birds | [GSATTLO | | conlifor | nes sita a | 150 |
| American Bittern | Summer | Res. | al atten | ton shoul | g pe Ejas | n to thos | | of local | | 75 |
| Conmon E Tot | Summer | wheeres o | Carring. | 5/15 | during ! | | ruR belro | E SHOULD | De Saded | u sebbuo- |
| Sandhill Grane | Summer | is. | terms a | 2172 | ", "tern" | etc. I | 1 additio | | birds lis | |
| Some | O DOLL | ect names | as found | in the s | .0.U. Che | CMILLET, I | | on, and i | | |
| Virginia Rail | | - | 3. INSTRI | CTIONS | | | | | | 200 |
| White Pelican | Sunner | | 3 | 6/3 | | | ł | 1 | | 6 |
| Selted Kingfisher | Summer | | - | | | Reported | ph::: | | | 20 |
| difference of the same | | | 2 | | | | (1) | 08-0 | 7 0 | |
| THE POST NEWS PROPERTY. | | | | | | | | | | 39 |
| TOTLAN DUNE | | | 1 | • | | - 1 | - 1 | | | 30 |
| Mary Park | 2/14/095 | tribin. | | | | | | - | | 200 |
| T Chambiada Culla and | Vin. | - | be - | | | | | | 1 | 100 |
| I. Shorebirds, Gulls and | 10 ID | | | | | | 1 | t | 1 | - 40 |
| Terns: | | | | | | | | | . 4 | 100 |
| Killdeer | | lesident | | | | | 1 | | | 250 |
| Golden Plover | Migrant | | 5 | 5/24 | | | | | | 5 |
| Comon Snipe | Summer | Ras. | | | | × | 1 | 1 | | 1,000 |
| Spotted Sandpiper | PRODUCTIVE. | *** | | | | 1 | | 1 | 1 | 200 |
| Least Sandpiper | Migrant | A78. | | | 1 | 1 | | | | 100 |
| Pectoral Sandpiper | greated | Resident | | | 1 | 1 | | 3 | 7 | 30 |
| Greater Tellowlegs Lesser Tellowlegs | | | | | 1 | 1 | | - | | 200 |
| Wilson's Phelarope | | | | | | | - | | | 75 |
| Pleak Town | Sumer | Res. | 250 | 8/25 | 1 | | | | 50 | 300 |
| Common Torn | O O | | 150 | 8/11 | | 1 | | | 70 | 250 |
| ing-billed Gull | Summer | Vis. | | O/ LL | | - V 1 | 1 | | | 200 |
| T INDAGE SHO ETECHNO | | | | | | | | | | 100 |
| Herring Gull | | 7 774 | 2 | 8/11 | - | | | | | 100 |
| naparte's Gull | CC02010 | mal Vis- | 2 | 0/11 | - | | | (5) | | (8) |

| manufacture and the company of the c | | | (4) | (5) | (6) |
|--|--|------------|--------|-------------|--|
| II. <u>Doves and Pigeons</u> : Mourning dove White-winged dove | Summer Resident | (uncommon) | | | 30 |
| IV. Predaceous Birds: Golden eagle (Bald) DocksbackScreech Cul Horned owl XMagnes Barred Cul Raven Crow | Summer Resident Resident Resident Resident Masident Summer Resident | 5 5/2k | | 1 | 1 30 20 30 50 50 |
| Red-tailed Hawk Broad-winged Hawk Rough-legged Rawk Harsh Hawk Sparrow Hawk Sharp-shinned Hawk Cooper's Hawk Goshawk | Vis. Summer Res. | | Report | ed by Que 8 | 50 100 50 100 200 20 10 5 |

Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gavilformes to Ciconiiformes and Gruilformes)

II. Shorebirds. Gulls and Terns (Charadriiformes)

III. Doves and Pigeons (Columbiformes)

IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) tal: Estimated total number of the speci using the refuge during the period concerned.

INT .- DUP. SEC., WASH., D.C.

Common Maryar.

SECOND DOUGH

Great Hime Haren

Pled-billed Grobe

I. Water and Marsh birds:

Total

Refuge Nonths of May to August , 194 69

| (1) Species | (2) Density | in rem | You Produ | ng | (4) Sex Ratio | R | (5) emova | ls | (6) Total | (7) Remarks |
|------------------------|--|--|------------------------------|--------------------|--|-------------------------|----------------|-----------------|---|--|
| Common Name | Cover types, total acreage of habitat | | Number broods obs'v'd. | Estimated Total | Percentage | Hunting | For Restocking | For Research | Estimated number using Refuge | Pertinent information not specifically requested. List introductions here. |
| Justiced Grouse | Survey method use | 12 but he had he | ejski us ast elqman | evi | h as to observing agreement type symposible. Tepresentaties as should be | stand where is or | muoo- | ed f | | Spring drumming, nest and brood observations fair to good. Birds not much in cvidence as of 8/31 may indicate pop. not up to expectations. |
| Sharp-tailed Ground | 1,200 acres grass, brush and crop- land. | 40 estasees | l dg , ys | 15 | .dadidad | an ibe | e ore | iativ appl | Setimated n in reprocess This column other speci | Very little activity on danc- ing grounds. One brood noted; largest flock seen was 16. |
| seasons. | fuge during certain | uring 6 he repo the re | b bevo | ub e atin | | i pla | number bird | Late | d betamlite Loclude res | Very low nesting population. Single birds noted occasion- ally in late evening. |
| iso | | area c ally re | on and | de q | formation no | ik de | rtine | er pe | dio ebuloni | (7) REVARKS: |
| 1613 | | | | .D00 | ed albons | 161 | OO DO | 1100 | end of eldi | * Only columns applic |
| | E | | | | | Tr. | | | | |



Form NR-2 - UPLAND GAME BIRDS.*

| (1) | SPECIES: | Use correct co | ommon name. | (4) | (3) | (2) | 1 |
|-----|----------|----------------|-------------|-----|---------|-----|------|
| | 200 | | 100 | Wa2 | Variant | | - 31 |

UPLAND GA BIRDS

- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts. etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short bus deem , makement suffr grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual at form Jog shwift .h observations and counts on representative sample areas. Survey method used and -bad was B'\0 to an end size of sample area or areas should be indicated under Remarks.
 - (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
 - (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
 - (5) REMOVALS: Indicate total number in each category removed during the report period.
 - (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
 - (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

^{*} Only columns applicable to the period covered should be used.

Int. Dup. Sec., Wash., D.C. 37944

WATERFOWL

Rice Lake REFUGE MONTHS OF September TO December, 1969 reporting Weeks o f period Sept. (1) $14-\frac{3}{20}$ $21 + 27 + 28 - \frac{10}{4} + 5 - 11 + 12 - 18 + 19 - 25 + 26 - 11/1 + 2 - 8$ Species 8/31-9/6: 7-13 Swans: Whistling 70 250 Trumpeter Geese: 400 Canada 400 500 500 500 750 800 450 750 500 Carching Lesser 200 200 150 50 200 Brant White-fronted Snow 30 50 300 200 150 1,200 300 50 Blue 30 100 800 150 100 200 Other Ducks: 2,000 Mallard 2,000 2,000 4,000 10.000 15.000 20,000 15,000 20,000 15,000 Black 150 150 150 250 500 400 250 600 500 800 Gadwall 10 100 50 Baldpate 1.000 1.200 1,200 10,000 10-000 6-000 3.000 1.000 500 500 Pintail 300 300 300 500 1.000 500 1,000 200 100 50 Green-winged teal 500 500 500 6.000 5,000 6.000 1,000 1.000 3,000 600 Blue-winged teal 3.000 3.000 3.000 5.000 5.000 2.000 500 Cinnamon teal Shoveler 30 30 30 100 50 50 50 100 booW 2.000 2,000 2.000 1,500 2,000 1,000 300 2,000 500 300 Redhead 50 1.000 50 30 50 100 300 500 500 200 Ring-necked 100 100 15,000 50,000 50,000 30,000 10,000 100 10-000 45 000 Canvas back 20 20 100 3.000 5,000 2,000 20 250 1,500 2,000 20 20 1,000 Scaup 20 20 1.000 5,000 20 100 5.000 Goldeneye 10 10 10 10 10 10 20 20 100 50 Bufflehead 20 20 50 50 Ruddy Other Hooded Merg. 250 250 250 250 250 300 500 500 500 300 100 200 500 5,000 10.000 8,000 3.000 3.000 700 200 Coot:

3-1750a

Cor. NR-1

(Rev. March 1953)

WATERFOWL Interior Dublicating Section, Washington, D. (Continuation Sheet)

Rice Lake MONTHS OF September TO December , 19 69 REFUGE Nov. Weeks of reporting period (3) Estimated Production : 9-15 : 16-22 : 23-29 :30-12/:7-13 :14-20:21-27:28-1/3 : 11 : 12 : 13 : 14 6: 15 : 16 : 17 : 18 (6) Peak(Number: : waterfowl : Broods: Estimated Species : days use : seen : total Swans: summary of data recorded under 3,640 Whistling 200 Trumpeter Geese: sentative Greas. COURT g pe ade on gating 450 Canada 42,000 in young produ Carkking Lesser 5,600 Brant Brant Average K III ITECTO White-fronted source Snow 150 16.600 Blue borting Period: 100 BYETAE reluge 10.710 50ther of Ducks: 10.000 Mallard 805,000 Black 400 29.050 Gadwall 1,120 Baldpate 241.150 50 Pintail 29,750 Green-winged teal 300 170.800 Blue-winged teal 150,500 Cinnamon teal Shoveler 3.080 100 Wood 95,900 Redhead 19.460 Ring-necked 500 1.475.600 Canvasback 100 98,070 Scaup 2,000 99,400 Goldeneye 10 1.820 Bufflehead 10 1.050 Ruddy Other Hooded Merg. 100 24,150 Coots: Roral Days Das 50 30.750 over)

| (5) Total Days Use: | (6) (7) Peak Number: Total Productio | on SUMMARY |
|--|--|---|
| Swans 3,640 | 250 | Principal feeding areas Rice Lake, Rice River Pool, |
| 74,970 | 3,000 | fields and small impoundments. |
| ucks 3,245,900 | 86,840 | Principal nesting areas |
| oots 215,250: | 10,000 | 19,460 |
| Shoveler | 100 | Reported by Oal & Dinnahal |
| tal waterfowl days' use | 3,355,260 | Carl E. Pospichal; Heruge Manager |
| 1) Species: | reporting period should be a | ted on form, other species occurring on refuge during the dded in appropriate spaces. Special attention should be cal and national significance. |
| 2) Weeks of Reporting Period: | reporting period should be acgiven to those species of loc Estimated average refuge popu | dded in appropriate spaces. Special attention should be cal and national significance. |
| 2) Weeks of Reporting Period: 3) Estimated Waterfowl | reporting period should be acgiven to those species of loc Estimated average refuge popu | dded in appropriate spaces. Special attention should be cal and national significance. ulations. |
| 2) Weeks of Reporting Period:3) Estimated Waterfowl Days Use: | reporting period should be acgiven to those species of loc Estimated average refuge popu | dded in appropriate spaces. Special attention should be cal and national significance. |
| 2) Weeks of Reporting Period: 3) Estimated Waterfowl Days Use: 4) Production: | reporting period should be ad given to those species of local species of l | dded in appropriate spaces. Special attention should be cal and national significance. ulations. |
| 2) Weeks of Reporting Period: 3) Estimated Waterfowl Days Use: 4) Production: | reporting period should be ad given to those species of local species of l | dded in appropriate spaces. Special attention should be cal and national significance. ulations. number of days present for each species. oduced based on observations and actual counts on repre- rood counts should be made on two or more areas aggregatin Estimates having no basis in fact should be omitted. |
| 2) Weeks of Reporting Period: 3) Estimated Waterfowl Days Use: 4) Production: | reporting period should be ad given to those species of local species of l | dded in appropriate spaces. Special attention should be cal and national significance. ulations. number of days present for each species. oduced based on observations and actual counts on repre- rood counts should be made on two or more areas aggregatin Estimates having no basis in fact should be omitted. |

Interior Duplicating Section, Washington, D. C. Con. MR-1 (Rev. March 1923

Rice Lake

WATERFOWL

MONTHS OF September

3-1750a

Estimated total number of th WICKATO BINDS the refuge during the period concerned.

(other than waterfowl)

59317

(Nov. 1945)
Refuge Rice Lake Months of September to December 193 69

| (4) La(1)Seen; T | , |) E8 1800 | • | 2)apectes | , | 4) 363500 | concerned | (5) | | (6) |
|--|---------|--|---------|-----------|--------------|-----------|---|----------------------|------------------------|-----------------|
| Species | First | Seen | Peak N | umbers | Last | Seen | | roduction Total # | Total | Total Estimated |
| Compan Nama | Number | Date | Number | Date | Number | Date | Colonies | Nests | Young | Number |
| Common Name | | | MUMBORI | a species | TOT BIG | Beason of | COTONIES | 116313 | Tours | Number |
| I. Water and Marsh Birds: | | | | | | | | LSSSA | riformes) | |
| Common Loon | Summet | Resident | 10 518 | 10/14 | 2 (10) | 10/27 | a, Strigi | formes an | | tan can |
| Pied-billed Brebe | | Resident | | 10/7 | 19018 (00 | 10/29 | (88) | | | |
| Great Blue Heren | | Resident | | 9/1 | 911) (8 8110 | 10/29 | paradriif | ormes) | × | |
| American Bittern | | | - | 9/1 | 3 7 149 | 9/19 | | 1 | ses our o | uliformas |
| Sora | | | | 9/19 | TIN STATE | 10/7 | | | and Nati | |
| Virginia Rail | | C. C | | 9/15 | gilling i | 9/19 | ing perio | | se added | n appro- |
| Sandhill Crane | | | | 10/29 | 4 sein | 11/6 | a additio | | oirds lis | |
| Kingfisher | | Resident | | 10/14 | 0 2 CH | 11/8 | | 1 | | 18 A.O.U. |
| , | Occ. 3 | | INSTRU | 17000 | 0 01 000 | 11/0 | DE1 5-21+1 | on and I | st erone | AN A O II |
| Sharp-skinned Rask | 2 | 9/1 | 10 | 3/10 | | | | and a statistical | manuscript manuscript | |
| Cooperts Bask | 1 1 | 9/33 | -5- | 9/30 | -5 | Reparte | - A Company | | hal list | |
| Costank | Res. | Oucas, st | Eperus | | | Separte | 7 6 | 1 8 mg | - Carrie | Jak. |
| Red-talled Hawk | Supress | Ass. | 3 | 9/22 | | | | | \cup \cdot \cdot | |
| | Swared | Res. | 20 | 9/22 | | | 1 | | | |
| Broad-winged Rawk | Shannag | Res. | . 70 | 9/1 | 10 | 9/28 | | | Fight and A | |
| Rough-Legged Havk | 10 | 9/1 | 30 | 10/29 | 7 | Red Pa. | | | | |
| II. Shorebirds, Gulls and | Susse | Res. | 30 | 10/19 | 5 | 11/12 | | | | |
| Terns: | Res. | | 5 | 12/5 | | | 1 | | | |
| Killdeer | Summer | Res. | 100 | 9/1 | 1 | 10/17 | | | | |
| Semi-plmated Plover | Stamon | 865 . | 10 | 9/19 | 5 | 1000000 | | The second | AND SHAPE | |
| Black-bellied Plover | 200794 | 9/1 | 2 | 9/1 | | | | | | |
| Common Snipe | Summer | | 300 | 9/19 | | | | | £ 1 | |
| Spotted Sandpiper | Summer | | 100 | 9/9 | 5 | 11/9 | 4 | | | |
| Pectoral Sandpiper | Perm. | Res. | 50 | 9/9 | | | | 1 | | |
| Least Sandpiper | Salmana | Ses. | 10 | 9/9 | J . | 11/26 | | | | |
| Lesser Yellowlegs | | rigoral - I | 100 | 10/19 | 15 | 11/10 | | | | |
| Black Tern | Summer | Res. | 50 | 9/1 | 30 | 9/16 | 10 A 10 - 10 - 10 - 10 - 10 - 10 - 10 - | NAME OF | | |
| Comeon Tern | Sumer | | 100 | 9/1 | 10 | 9/16 | | 2.4 | | |
| Ring-billed Gull | 5 | 9/1 | 20 | 10/7 | 15 | 11/9 | + | | to the last the | |
| Herring Gull | 2 | 9/9 | 5 | 10/14 | 3 | 10/30 | | | | |
| III. Doyes and Pigeons: | | | | ,- | | -0/00 | | | | |
| The state of the s | | | | | | | | | | |
| (3) | 15 | | 10 | 4244 | 13 | | 1 | (8) | - | (e) |
| | 10 | - | 1.05 | (over) | 14 | - | - | (8) | | 16) |

| es and Pigeons: craing dove te-winged dove daceous Birds: chank eagle (Bald) chonank Barred Owl red owl spie ren ow ng-eared Owl reech Owl reh Hawk ugh-legged Hawk oad-winged Hawk | Perm. Perm. 1 Resid Summe 1 | Res. Res. 11/9 ent Res. 12/5 | 16 20 10 1 30 500 | 10/30 9/1 9/1 11/9 11/26 | 3 10 30 18 10 | 11/26 | | | |
|--|--|---|--|--|---|--|---|--|--|
| daceous Birds: chark eagle (Bald) chobank Barred Owlered owl cpie cen ow ng-eared Owl reech Owl resh Hawk ugh-legged Hawk | Perm. Perm. 1 Resid Summe 1 Res. Summe | Res. Res. 11/9 ent Res. | 16 20 10 1 30 500 | 10/30 9/1 9/1 11/9 11/26 | 1 | * | | | |
| skopawk Barred Owloned owlone pie en w ng=eared Owl reech Owl rsh Hawk ugh=legged Hawk | Perm. Perm. 1 Resid Summe 1 Res. Summe | Res. Res. 11/9 ent Res. | 20 10 1 30 500 | 9/1 9/1 11/9 11/26 | 1 | * | - | | |
| rned owl pie yen w ng=eared Owl reech Owl rsh Hawk ugh=legged Hawk | Perm. 1 Resid Summe 1 Res. Summe | Res. 11/9 ent Res. | 10 1 30 500 | 9/1 11/9 11/26 | 5 | 37/3 | | | |
| pie ven mg_eared Owl reech Owl rsh Mawk ugh_legged Hawk | Resid Summe 1 Res. Summe | 11/9 ent Res | 1 30 500 | 11/9 | | 33.70 | | | 1 |
| ren ow ng-eared Owl reech Owl rsh Hawk ugh-legged Hawk | Summe 1 Res. Summe | ent Res. | 30 500 | 11/26 | | 10 11 | | | |
| ow ng-eared Owl reech Owl rsh Hawk ugh-legged Hawk | Summe 1 Res. Summe | Res. | 500 | | | | | | |
| ow ng-eared Owl reech Owl rsh Hawk ugh-legged Hawk | 1 Res. Summe | | 1 400 250 250 | 1 1 1 1 1 1 | | | | | |
| reech Owl rsh Hawk ugh-legged Hawk | Res. Summe | 12/5 | S Paris Control | 12/5 | 5 | End rd. | | 1 | |
| rsh Hawk ugh-legged Hawk | Summe | | 5 | 12/5 | | | | 1 | |
| ugh-legged Hawk | | Res. | 30 | 10/14 | 2 | 11/12 | | | |
| | | 9/1 | 30 | 10/29 | ĩ | End Pd | 1 | | |
| | Summe | | 10 | 9/1 | 4 | 9/22 | | | |
| arrow Hawk | Summe | Res. | 20 | 9/22 | | 1 | | | |
| i-tailed Hawk | Summe | Res. | 3 | 9/22 | | 1 1 | | | |
| shawk | Res. | Occas. s: | ghting | | | Reported | pl 0.11 | Ann | Dal |
| oper's Hawk | | 9/11 | 5 | 9/20 | 1 | 11/12 | | ospichal; e | uge Mor |
| arp-shinned Hawk orey | 2 | 9/1 Visitor | INSTRI | JCTIONS | | | | | -00- |
| rthern Shrike rkey Vulture | Use the cor order. Avo form, other priate spac significanc | rect <u>names</u> id gaugral species o es. Speci e. Groups | al attender II. She | on refuge tion shoul ter and Ma prebirds, ves and P | e during ld be giv arsh Bird Gulls an igeons (C | the reporti ven to those ls (Gaviifon dd Terns (Ch Columbiforme | ing period sho e species of l rmes to Ciconi naradriiformes es) s, Strigiforme | uld be added ocal and Natiformes and ()) s and predace | in appro- ional Gruiiformes |
| | | | -3 0 - 33 | | | 1 | | asseriformes | |
| First Seen: | | | | The state of the s | | | | | 7400000 |
| - | | | | 1 | 1 | | | The state of the s | Estimated Number |
| reak Numbers. | The greates | r number o | t the spe | cies pres | sent in a | l limited in | | | Total |
| Last Seen: | The last re | fuge recor | d for the | species | during t | he season o | | | (6) |
| | | | | - | | | | | 107 |
| Production | Estimated In | ишрет от А | | | | ervacions a | mu accuar cou | u to. | |
| Production: | | | | | | | | | |
| | rkey Vulture | form, other priate spac significance. First Seen: The first repeate Production: Estimated management of the state of the | form, other species of priate spaces. Species of significance. Groups First Seen: The first refuge recompany of the greatest number of the last refuge recompany | form, other species occurring priate spaces. Special attensing significance. Groups: I. Was III. Down IV. Property of the Special Seen: The first refuge record for the Special Seen: The last refuge record for the Special Seen: Estimated number of young property. | form, other species occurring on refuge priate spaces. Special attention should significance. Groups: I. Water and Market II. Shorebirds, III. Doves and Production: The first refuge record for the species presumed to the | form, other species occurring on refuge during priate spaces. Special attention should be give significance. Groups: I. Water and Marsh Bird II. Shorebirds, Gulls and III. Doves and Pigeons (Control IV. Predaceous Birds (Factor) IV. | form, other species occurring on refuge during the reports priate spaces. Special attention should be given to those significance. Groups: I. Water and Marsh Birds (Gaviifor II. Shorebirds, Gulls and Terns (Charles III. Doves and Pigeons (Columbiformed IV. Predaceous Birds (Falconiformed IV. Predaceous Birds (Falconiformed IV. Predaceous Birds (Falconiformed IV. Peak Numbers: The greatest number of the species present in a limited in Last Seen: The last refuge record for the species during the season of Production: Estimated number of young produced based on observations as | form, other species occurring on refuge during the reporting period sho priate spaces. Special attention should be given to those species of 1 significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconi II. Shorebirds, Gulls and Terns (Charadriiformes III. Doves and Pigeons (Columbiformes) IV. Predaceous Birds (Falconiformes, Strigiforme Prirst Seen: The first refuge record for the species for the season concerned. Peak Numbers: The greatest number of the species present in a limited interval of time Last Seen: The last refuge record for the species during the season concerned. Production: Estimated number of young produced based on observations and actual countries. | order. Avoid general tegms as "seaguil", "term", etc. In addition to the birds list form, other species occurring on refuge during the reporting period should be added priate spaces. Special attention should be given to those species of local and Natisignificance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and II. Shorebirds, Gulls and Terms (Charadriiformes) III. Doves and Pigeons (Columbiformes) First Seen: The first refuge record for the species for the season concerned. Peak Numbers: The greatest number of the species present in a limited interval of time. Last Seen: The last refuge record for the species during the season concerned. Production: Estimated number of young produced based on observations and actual counts. |

WATERFOWL ..ONTER KILL SURVEY

Refuge Rice Lal

Rice Lake NWR

Year 196_9

| | | | CHOTOGOTOGOT | | | | and a service of the service of the | |
|--|--|---------------|--|--------------|--------------------------|----------------------|-------------------------------------|-----------------|
| ₹(1) Weeks of | (2) No. Hunters | (3) Hunter | (4) | (5) Total | (6) | (7) Total | (8) | (9) |
| Hunting | Checked | Hours | Waterfowl Species and Nos. of Each Bagged | | Crippling Loss | Kill | Est. No. of Hunters | Est. Total Kill |
| | nger o gra | g11301 10 | esono eno de considerado en en en entra enten- | d gardan | m lo xeev | far fil ed | E (T) | |
| | | | No waterfowl hunting on refuge. | el ales | uccessive v | i , iodi | | |
| | bynoey o | d bna sia | or done attending spuley to imported to the second | nim s v | is to surv | Ison or | (3) | |
| | ad bluods of moids | nortasm. | of the complete day's innting. Into 1919 | and embe | From those | ava only | | |
| | | | the west and in each area hunted in toleta When the 25 percent goal cannot be achieve | in which is | duing ear r effort er | ollected be burbe | | |
| | | | representative data. | dosilo | of nesket | ed bised | | |
| | 7 | | sours the hunters spent hunting on the refu | | | | | |
| | The state of the s | | | | | | (6) | |
| | allerd (61); 3), Green- | | edracating order of numbers bagged, Sample | o set an | osge hvoto | day dab | (4) | 30,5 |
| | 100 100 200 | y sampled . | Gadwall (11), Widgeon (6), Cook (1), Canadi | (dl) b | 36) Reduce (1) Le | fladar | | |
| | | | | | | | | |
| A STATE OF THE STA | | | .beggad Lychm | isw lo s | rad number | d broom | (5) | |
| | | , be- | evocer for two died down but recover | pir to i | recimum facto | d Booosi | (6) | |
| | | | | | | * Laborator | | |
| | P. 17 | | | The same of | Columns 5 | | (4) | |
| | galbuloat | , xleow e | t bunters who bunted on the refuge during t | radam | Inted both | edamidel | (8) | |
| | | | | (S mess) | objected (Co | School | | |
| | Alleria III am | 2.7 | O percent, Column 9 = Column 8 x Column 7. | E of he | tostora sin | ens III | (8) | |
| | The Theorem | | 2 1000100 | | | | | |
| | | 14 mg 14 12 | | | | | | |
| | 2 | | | | | | | |
| | Landa de la constante de la co | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | 80348-60 | | | | | | | |
| | | | (anal) | | | | | |
| YELL YELL | | | (over) | 1 | | | | 100 m |

INSTRUCTIONS

- (1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.
- (2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.
- (3) Record the total number of hours the hunters spent hunting on the refuge.
- (4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Greenwinged Teal (1).
- (5) Record total numbers of waterfowl bagged.
- (6) Record total numbers of waterfowl reported knocked down but not recovered.
- (7) Total of Columns 5 and 6.
- (8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).
- (9) Kill sample projected to 100 percent. Column 9 = $\frac{\text{Column } 8}{\text{Column } 2}$ x Column 7.

UPLAND GAME BIRDS

Refuge Rice Lake Months of September to December 1969

| (1) Species | (2) Density | total a | (3) Young oduced | r typ | Sex (5) | | als | (6) Total | (7) Remarks | |
|------------------------|---|----------------------|------------------------------|--------------------|------------------------------|----------------------|---------------------|---------------|---|--|
| Common Name | | Acres Per Bird | Number broods observed | Estimated Total | Percentage | Hunting | For Re- stocking | ar a | Estimated number using Refuge | Pertinent information not specifically requested. List introductions here. |
| Ruffed Grouse | 5000 acres timber and brush | | nder Rem | | ld be indica produced, b | shou oung bita | | nedmu | 300 300 1 Dedemida 5 evitatios | No notable change from a year ago. |
| Sharp-tailed Grouse | 1200 acres grass brush and cropland | | | | rily to wild | | able. | Llava | species if | that of a year ago. More sightings; larger groups. |
| loodcock soutor | 8,000 acres timber, brush, grassland and marsh. | 160 | dag the | ge du ato t | ing the refu migrating i | r us | odgun lus t | Ledo rds p | 50 Ltab | Low population; light mig ratory use. |
| include | ared in survey. Als | rea cov sted. | n and a y reque | lati Pical | sterwine pop on not speci | to d | nsed | thod | Indicate me | (7) REMARKS: |
| | | | | .be | should be wa | ben | evos | eriod | le to the g | *Only columns applican |

Form NR-2 - UPLAND GAME BIRDS*

(1) SPECIES: Use correct common name.

(2) DENSITY:

ertinent information not

pecifically requested.

.ered anolipuborini Jai

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED:

No notable chance from

- Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO:

This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS:

Indicate total number in each category removed during the report period.

(6) TOTAL:

Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS:

Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

Refuge Rice Lake

Calendar Year 1969

| (1) Species | (2) Density | (3) Young Froduced | | Rem | iona (it) | ls | | | (5) sses | In | (6) troductions | Estima Total Popula | ated Refuge | (g) Sex Ratio |
|-------------------|--|--------------------------|-----------------|---------------------|--------------|----------------------|-----------|-------------------|----------------------------|---------------------|---|------------------------------------|----------------|---------------------|
| Common Name | Cover types, total Acreage of Habitat | Number | Hunting | For Re- stocking | Sold | For Research | Predation | Disease | Winter | Number | Source | At period of Greatest use | As of Dec. | |
| White-tailed Deer | 12,000 acres marsh and upland | 50 | 60 | A PA G IN | 305 376 | 1765 186 1 181 | do X | | edint Lines | of the | mno espandi est edi deli meve envigi | 150 | 50 | |
| Moose | 12,000 acres marsh and upland | ds bettle n yawney m | 500 - 8 | eri Erik Lene | | anas anas | | 120 121 100 | eere i orened de lod | e do en o din | m ed bisons assured bus one assure to | 2 | | |
| Black Bear | 12,000 acres marsh and upland | 5 | 601 + 036 | es p | eray elon | to o | eda / | SET SEED | Lafot | beda ada | ntsel : Geol | 10 | 5 | |
| at | nettes indicate total losses | aso sidai | Žán. | 10 | 9.01 7.86 | oost g sda | 73.0 | | to sto | ed s | On c) nach | 1085801 | (e) , | |
| | which stock was secured. | sorT Tons | 8.0 | 40 | | on fu | 3 | | um edit | 5.58 | othal talli | HIDUGUNERI MANG LATOT | (3) | |
| at. | on the refuge as period of | . E . c | 18.0 De | 30 s | no! | sis! | ng ma | 928 | SELTUS SCULIGE STEE | dan | sviO Jasta | POPULATION | | |
| morl | r each species as determine | gefore'i | ben ben | 80J | es dga | ro de ordi | 300 | asi amo | ine psi Lievie | afa ado | ladic field | SON BARKO: | (8) | |

Remarks: In line with deer populations in this general area, the refuge population was down somewhat but the hunting success was comparable to that of a year ago. Moose are transients. As with deer, moose warder on and off the refuge. Some deer winter off the refuge. The same is true of the bear.

Reported by Carl E. Pospichal: Refuge Mgr.

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisians white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMCVALS: Indicate total number in each category removed during the year.
- (5) LCSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE
 POPULATION: Give the estimated population of each species on the refuge at period of its
 greatest abundance and also as of Dec. 31.
- (8) SEX RATIC: Indicate the percentage of males and females of each species as determined from field observations or through removals.

Remarks

Refuge Rice Lake NWR

Year 19.69

| B | otulism | Lead Poiso | ning or other Dise | 236 |
|---|---|---------------------------------|--------------------|-----------|
| Period of outbreak | NONE | Kind of disease | NONE | |
| Period of heaviest loss | es | Species affected | | |
| Losses: (a) Waterfowl (b) Shorebirds (c) Other | Actual Count Estimated | Number Affected Species | Actual Count | Estimated |
| Number Hospitalized | No. Recovered % Recovered | Number Recovered | | |
| (a) Waterfowl (b) Shorebirds (c) Other | | Number lost Source of infection | | |
| Areas affected (locatio | n and approximate acreage) | Water conditions | | |
| | ge depth of water in sickness reflooding of exposed flats, etc. | Food conditions | | |
| Condition of vegetation | and invertebrate life | Remarks | | |

3-1757 Form NR-7 Rev.June 1960)

Refuge Rice Lake NWR

Year 19**69**

| 7-74-0 | | Colle | ection | s and Re | ceipts | | | | Plant | | | | |
|-----------|---------------------------|---------------------|----------|--------------------------------|--------|-----------------------------------|-----------------------------|--------------------------------------|--|---------------------------------------|------|----------|------------------|
| * | (Seed | ls, ro | ootsto | cks, tre | es, sh | rubs) | | (| tic - Upland | .) | | | |
| Species | Amount (Lbs., bus., etc.) | (2) C or R | Date | Method or Source | Cost | (3) Total Amount on Hand | Location of Area Planted | Rate of Seeding or Planting | Amount Planted (Acres or Yards of Shoreline) | Amount and Nature of Propagules | Date | Survival | Cause of Loss |
| Wild Rice | 3,958 1bs. | 6 | 9/8-9/19 | Hand flail by Indians | | 115* | | | | | | | |

| (1) Report agronomic farm crops on Form NR-8 (2) C = Collections and R = Receipts (3) Use "S" to denote surplus | Remarks: 115 pounds of wild rice retained for seeding in Rice Lake and West field impoundments. This seed planted same day as harvested. Balance of rice sold to highest bidder. |
|---|--|
| Potal acreage planted: Marsh and aquatic | Cash income \$4,680.23 |
| Hedgerows, cover patches Food strips, food patches Forest plantings | |

3-1758 Form NR-8 (Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

| Cultivated | | Permittee's Share Harvested | | Government's Share or Return Harvested Unharvested | | | Total | Green Manure, Cover and Water- | | |
|----------------------------------|---|---------------------------------------|------------------------------|--|--------------|---------------|----------------------------------|-----------------------------------|-----------------|------------------|
| Crops Grown | Acres | Bu./Tons | Acres | Bu./Tons | Acres | Bu./Tons | Acreage Planted | fowl Browsing Crops Type and Kind | | Total Acreage |
| Corn | - | | - | | 28 | 25 | 28 | Mowed | hay strips | 70 |
| Dats | | | | | 22 | 15 | 22 | Rye | N SE CO | 35 |
| Buckwheat | the kine han | galmero fa goro saudo b besmaig | Saerias II. | Cost Pare | 34 | 8 | 34 | s eds garby | | MADE COLLE |
| | Trappo In a rectange | med clobe | iseq – Babot, eg sug tabo | the of purpers for the case of | obadoi anodi | t could the r | | Fallow | Ag. Land | 61 |
| No. of Permittees: | Agricultur | al Operation | ons | | Haying | Operations | 8 | Grazin | g Operations | 2 |
| Hay - Improved (Specify Kind) | Tons Harvested | Acres | Cash | A STATE OF THE PARTY OF THE PAR | BRAZING | Numi Ani | per | AUM'S | Cash Revenue | ACREAGE |
| | 319.76 | 800 | \$319. | 76 1. | Cattle | 32 | | 176 | \$ 176.00 | |
| | Ymon | | 5002 | 2. | Other | 707 | 00000 00000 00000 00000 | 100 | | |
| | | | | 1. | Total R | efuge Acre | age Under (| Cultivati | on | 250 |
| | | | | | | | as Service | | | |

DIRECTIONS FOR PREPARING FORM NR-8 CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown.

Annual plantings should also be reported under <u>Cultivated Crops</u>, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

REFUGE GRAIN REPORT

| (1) VARIETY* | (2) On Hand | (3) RECEIVED | (4) | (5) Grain Disposed of | | | | (6) On Hand | (7) PROPOSED OR SUITABLE USE* | | |
|-----------------|---|--|--|---|--|---|---|---|---|------|--------|
| | BEGINNING of PERIOD | During Period | TOTAL | Transferred | Seeded | Fed | Total | END OF PERIOD | Seed | Feed | Surplu |
| orn | 200 | 250 | 450 | 18-01763-1 | CONTRINERY PRI | 175 | 175 | 275 | | 275 | |
| ye | 103 | cate here t tion of grai | 103 | grain sh es proposo | ipped in, d d. | estination | of grain tr | 103 | 103 | | |
| uckwheat | (40 A) | re stored or | 1 Letn 40H | eadquarte. | 40 | etc. | 40 | 0 | | | |
| ats | 81 | тевр 30 д | eed break-do | crops | 30 | | 30 | 5. Indicate 0 | if grain is | | |
| | (6) Coh | ımn 4 less o | | | winding of a | moin ligto | in column | g Indicate | if orain is | | |
| | p | rvest from | food patch | | og llow st | Sources, | such as tran | sfer, share c | topping, or | | |
| | m m w | brid corn, ilo, new er il not suffi her refuger | a cowpeas, n ce, as specifi La Include o | , red May likado soy details a nly domes | wheat, dur beans, etc re necessar tic grains; | m wheat Mere li y in cons aquatic an | spring where sting as con- dering trans d other seed | t, proso mill n, wheat, an fer of seed will be liste | I soybeans supplies to d on NR-9. | | |
| | grain shall be 60 lb., barley- mixed—50 lb. | grain in b considered -50 lb., rye In comput | equivalent —55 lb., oat ing volume o | to a busi s—30 lb., f granarie | el: Corn (soy beans- s, multiply | shelled)— -60 lb., n the cubic | 55 lb., corn lillet—50 lb contents (cu | cowpeas— ft.) by 0.8 b | ., wheat— 50 lb., and ushels. | | |

*See instructions on back.

(10) Remarks

16-61482-1

"See instructions on back. (10) Remarks NR-8a Grain is stored at Refuge grainery REFUGE GRAIN REPORT Indicate shipping or collection points This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report. Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat— 60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels. (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9. (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches. (4) A total of columns 2 and 3. (6) Column 4 less column 5. (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops. (8) Nearest railroad station for shipping and receiving. (9) Where stored on refuge: "Headquarters granary," etc. (10) Indicate here the source of grain shipped in, destination of grain transferred, data on con-Rye dition of grain, unusual uses proposed. 16-61482-1 S. GOVERNMENT PRINTING OFFICE TYP

Transferred

TOTAL

(4)

Refuge

Rice Lake NWR

VARIETY "

OF PERIOD

ON HAND

DURING

RECEIVED

Months of .

Total.

throus

ON HAND

nsumera

December, 1999

Feed

PROPOSED OR BUITABLE USE"

Seeded

Fed

GRAIN DISPOSED OF

| Refuge | Rice | Lake | NWR | Year | 1940069 |
|--------|------|------|-----|------|---------|
| | | | | | |

| Permittee | Permit No. | Unit or Location | Acreage | No. of Units Expressed in B. F., ties, etc. | Rate of Charge | Total Income | Reservations and/or Diameter Limits | Species Cut |
|--------------|--------------|---------------------|--------------|---|----------------------|-----------------|---|-------------|
| No timber re | moval pendir | g revised 1 | imber manage | ment plan. | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| Total acreage cut over | Total income |
|---------------------------------------|--------------------------|
| No. of units removed B. F. Cords Ties | Method of slash disposal |
| | |

Refuge

Rice Lake

Proposal Number Reporting Year

1969

ANNUAL REPORT OF PERSTICIDE APPLICATION

| INSTRUCTIO | NS: Wildlife Refuges Ma | nual, secs, 3252d, 3394b ar | nd 3395. | | The state of the s | 4 | 190 | |
|---------------------------------|---------------------------|---|---------------------|--------------------------------------|--|---------------------|---------------------------|-----------------------------|
| Date(s) of Application | List of Target Pest(s) | Location of Area Treated | Total Acres Treated | Chemical(s) Used | Total Amount of Chemical Applied | Application Rate | Carrier and Rate | Method of Application |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 6/23 7/18 - 25 9/4 | Willow (Salix) | Scattered willow patches vicinity of Rice Landing and West Fields | 75 | 2,4-D and 2,4,5-T Brush Killer | 150# | 2#/acre | Water 20 gal. /acre | Ground Equip. |
| 6/9 | Quack grass | West Fields | 28 | Atrazine 80% | 100# | 3#/acre | Water | Ground Equip. |
| | | | | | | | | |
| | | | | | | | | |

^{10.} Summary of results (continue on reverse side, if necessary)

Apparent kill 90 plus per cent; target was resprouting of willow mowed the year previously. Access was too wet (ground, not surface) in some areas and these were not sprayed. Coverage was excellent because of low stature of target.

Quack grass kill with atrazine about 90%.

(Rev. March 1953)

WATERFOWL TupeLior profitering pecchon, Washington, D. (Continuation Sheet)

Rice Lake MONTHS OF September TO December , 19 69 REFUGE Nov. Weeks of reporting period (3) (4) Production : Estimated Feal(I)mber: : 9-15 : 16-22 : 23-29 :30-12/:7-13 :14-20:21-27:28-1/3 : waterfowl : Broods: Estimated : 12 : 13 : 14 6: 15 : 16 : 17 : 18 : days use Species : seen : total Swans: 3,640 200 Whistling Trumpeter FOR OI D Geese: sentative STORE shou og pe se aggregating 42,000 450 Canada 5,600 Canking Lesser Brant species: White-fronted 150 16,600 Snow Blue borging borjog: 10,710 100 Other Ducks: 10,000 Mallard 805,000 400 29,050 Black 1,120 Gadwall 50 241,150 Baldpate 29,750 Pintail 300 Green-winged teal 170,800 Blue-winged teal 150,500 anna de Cinnamon teal Keruge 3,080 Shoveler 100 Wood 95,900 Redhead 19,460 202100 Ring-necked 500 1.475.600 Canvasback 300 100 98,070 2,000 Scaup 99,400 Goldeneye 10 1,820 Bufflehead 10 1,050 Ruddy OOT Other Hooded Merg. 100 24,150 Coots: Josef Dake nee 215,250 50 over)

| (5) Total Days Use: | (6)- (7) Peak Number: Total Product: | ion SUMMARY |
|-------------------------|--------------------------------------|--|
| Swans 3,640 | 250 | Principal feeding areas Rice Lake, Rice River Pool, |
| Teese 74,970 | 3,000 | fields and small impoundments. 1 850 |
| ucks 3,245,900 | 86,840 | Principal nesting areas 88 000 |
| oots 215,250 | 10,000 | 19,450 |
| Shoveler | 100 | Reported by And 9 Vana Alaska |
| otal waterfowl days' us | se 3,355,260 | Carl E. Pospichal; Refuge Manager |
| 1) Species: | reporting period should be | isted on form, other species occurring on refuge during the added in appropriate spaces. Special attention should be local and national significance. |
| 2) Weeks of | | |
| Reporting Period: | Estimated average refuge po | |
| Estimated Waterfow | 1201 | 16,600 |
| Days Use: | | x number of days present for each species. |
| CKIRKKER Lesser | | 5,600 |
| +) Production: | sentative breeding areas. | produced based on observations and actual counts on repre- Brood counts should be made on two or more areas aggregating. Estimates having no basis in fact should be omitted. |
| 5) Total Days Use: | A summary of data recorded | |
| Peak Number: | Maximum number of waterfowl | present on refuge during any census of reporting period. |
| 7) Total Production: | A summary of data recorded | nuder (4). (3) : (4) muder (4). (4) |
| | | |

MONTHS OF September

TO December

OAGL)

Interior Duplicating Section, Washington, D. C. (Rev. March 1923 AVEERLOAL

3-1750a.

Rice Lake

Estimated total number of th MICHATORY BIRDS the Teruge during the period concerned.

(other than waterfowl)

Months of September to December 195 69 Refuge Rice Lake

| (1) | (2 | * | d for til | | , | 4) 809809 | concerned | (5) | | (6) |
|---------------------------|--|--|--|--------|-----------|-----------|-----------|--|--------------------|-----------------|
| Species | First | Seen | Peak N | imbers | Last | Seen | Number | roduction Total # | Total | Total Estimated |
| Common Name | Number | Date | Number | Date | Number | Date | Colonies | | Young | Number Number |
| I. Water and Marsh Birds: | | | | | | 000000 | | | riformes) | |
| Common Loon | Summer | Resident | 10 | 10/14 | 2 | 10/27 | B, Strigi | formes an | 1 predace | TUB |
| Pied-billed Brebe | Summer | Resident | 100 | 10/7 | sachs (Co | 10/29 | 98) | | - | |
| Great Blue Heron | Summer | The second secon | the second secon | 9/1 | 1 | 10/29 | asradriif | | | |
| American Bittern | THE RESIDENCE OF THE PERSON OF | Resident | State over the state of the last terms of | 9/1 | 3 | 9/19 | | | | uliformes |
| Sora | AND R. LEE, LANDSCORPER AT 7 YEAR | Resident | | 9/19 | d by gave | 10/7 | | of local | and Nati | nal |
| Virginia Rail | THE RESERVE AND ADDRESS OF THE PARTY OF THE | Resident | | 9/15 | duling t | 9/19 | 1 | should | se added | n appro- |
| Sammitt Crane | Summer | | | 10/29 | ", Mtern! | 11/6 | n additio | 1 | pirds lis | ed en |
| Kingfisher | Summer | Resident | 10 | 10/14 | .0.5. Che | 11/8 | 931 Editi | on, and 1 | ist group | in A.O.U. |
| Sharp-shirmed Hawk | 2 | 9/1 | THETRE | 300 | | | | | | |
| Cooper to Hauk | 7 | 9/33 4 | - 5 - 1 | 9/30 | 7 7 | Reported | Carl | E. Pospio | hal; Wefu | ge Mgr. |
| Goshawk | Res. | Dooss. si | ghting | | | Reported | Da C | 8 8 mg | THE THE GOVERNMENT | VOY |
| Red-tailed Hawk | Suggest | Res. | . 3 . 1 | 9/22 | 4 | | | 0 | | V |
| Sparrow Hawk | Summer | Res. | 80 | 9/22 | . 9 | | | | | |
| Broad-winged Hawk | Summer | Res. | . JO | 9/1 | 22 | 9/22 | | - | - | |
| Rough-legged Hawk | JO | 9/1 | 30 | 10/29 | J . | End Pd. | 1 | | - 1 | |
| II. Shorebirds, Gulls and | Summer | Res. | 30 | 10/14 | 5 | 11/12 | | | | |
| Terns: | Res. | | 5 | 12/5 | | 1 | | | 1 | |
| Killdeer | Summer | Res. | 100 | 9/1 | 1 | 10/17. | | Ţ. | - | |
| Semi-plmated Plover | Comment | 1165. | 100 | 9/19 | 1 | 10/1/ | | | ļ. | T . |
| Black-bellied Plover | -S. | 9/1 | 2 | 9/1 | | | - | A STATE OF THE STA | 1 | |
| Common Snipe | Summer | | 300 | 9/19 | 1 | 1 | | 1 | | |
| Spotted Sandpiper | Summer | 0.000 | 100 | 9/9 | 5 | 11/9 | | į. | | |
| Pectoral Sandpiper | Derwen | 100 | 50 | 9/9 | | 1 | - | | | |
| Least Sandpiper | Surmer | Res. | 10 | 9/1 | I | 11/26 | | - | i i | |
| Lesser Yellowlegs | | aarma - k | 100 | 10/19 | 15 | 11/10 | F - F | 1 | (Company) | |
| Black Tern | Summer | Res. | 50 | 9/1 | 30 | 9/16 | 1 | - | | 1 |
| Common Tern | Summer | | 100 | 9/1 | 10 | 9/16 | | 1 | | |
| Ring-billed Gull | 5 | 9/1 | 20 | 10/7 | 15 | 11/9 | | | | |
| Herring Gull | 2 | 9/9 | 5 | 10/14 | 3 | 10/30 | | | | • |
| III. Dover and Pigeona: | | | | 1 | | | 1 | | | |
| | | | | | | | | | | |
| (1) | (5) | | (5 | (over) | (10) | 1 | | (2) | | (8) |

| - | (1) | (2) | (3) | (OAGL | (4) | (5) | | (6) |
|--|---|--|---|--|---|--|--|--|
| 1 | Doves and Pigeons: Mourning dove White-winged dove | Summer Res. 5 9/1 2 9/9 | 20 | 9/1 9/1 10/7 15 10/14 3 | 9/16 9/16 11/9 10/30 | | | |
| IV. | Predaceous Birds: | | J00 : | 10/19 15 | 11/10 | | | |
| | colden eagle (Bald) NockxharkBarred Owl Norned owl | Summer Res. Perm. Res. Res. | 20 9 | 0/30 l /1 /1 | 11/26 | | | |
| e l | Magpie Raven Crow Long-eared Owl | Resident Summer Res 1 12/5 | 30 1 500 1 | 1/9 1/26 0/1 2/5 | End Pd. | | | |
| II a | Screech Owl Marsh Hawk Rough-legged Hawk Broad-winged Hawk | 10 9/1 Summer Res. | 30 1 30 1 10 9 | 2/5 0/14 2 0/29 1 /1 4 | 11/12 End Pd. 9/22 | | | |
|] | Sparrow Hawk Red-tailed Hawk Goshawk Gooper's Hawk | Summer Res. Summer Res. Res. Occas. s: | 3 9 ighting | /22 /22 /28 1 | Reported | | Papiel | ما |
| I. W Co PI Or Aw So VI So KI | Sharp-shinned Hawk Osprey (1) Species: Northern Shrike Turkey Vulture | Occ. Visitor Use the correct name order. Avoid general form, other species priate spaces. Spec significance. Group | INSTRUCT s as found in terms as "s occurring on ial attention s: I. Water II. Shoret III. Doves IV. Predace | the A.O.U. Classagull", "term of refuge during a should be give and Marsh Birds Gulls and Pigeons (Capacital Company) (Capacital Company) (Capacital Capacital Capacita Capacital Capacita Capacital Capacital Capacital Capacital Capacital Capacital Capacita Capacit | ven to thosome (Caviifo of Terns (Caviifo of Columbiforme calconiforme) | e species of local rmes to Ciconiifor haradriiformes) es) s, Strigiformes ar | list group i birds liste be added in l and Nation rmes and Gru | n A.O.U ed on appro- al iiformes |
| | Common Mane | Number Date | TAGING OT | STAG HARMON | | Colonies Nests | Young | Number |
| | 3) Peak Numbers: | The greatest number | | | | MA. | | Estimate |
| | 4) Last Seen: | The last refuge reco | Peak Number | | t Seen | Productio | U | (6) Total |

Estimated total number of the species using the refuge during the period concerned.

59317

UPLAND GAME BIRDS

FORM NR-2 - UPLAND GAME BIRDS*

3-1752 Form NR-2 (April 1946)

| (APTII 1940) | Refuge Rice I | ake | | Mont | ns of | s s | eptem | ber to | December , 1969 |
|------------------------|---|--|--|------------------------------|--------------------------------|---------------------|-------|--|--|
| (.sto.ttaud | alling) amengona (a | | | hose apectes | t ot | | | Applies par | (2) DENSITY: |
| (1) Species | (2) Density | (3) Young Produced | ies or type to the | (4) Sex Ratio | timo na in aguif ntta | (5) Removs | n acr | (6) Total | (7) Remarks |
| Common Name | Cover types, total acreage of habitat | Acres Per Bird Numper Bird opposer Roman | Estimated Total | Percentage | Hunting | For Re- stocking | Br. | Estimated number using Refuge | Pertinent information not specifically requested. List introductions here. |
| Ruffed Grouse | 5000 acres timber and brush | oder Rederka | beed u | produced, l | Вапо | reas of y | redmu | sample area 006 Satimated r sentative | No notable change from a year ago. |
| Sharp-tailed Grouse | 1200 acres grass brush and cropland | ey, phes san06, | | rily to wild | | able. | [lava | species if | Population about double that of a year ago. More sightings; larger groups. |
| Woodcock appropri | 8,000 acres timber, brush, grassland and marsh. | 160 | | ing the refu migrating i | | | | | Low population; light migratory use. |
| ebuloni d | and marone | on and area cov Ly requested. | ilati Molecul | etermine pop on not speci | b os Lami | nsed infor | bond | Indicate me | (7) REMARKS: |
| | | | , bs | en ad Pinouje | ben | evos | eriod | le to the p | *Only columns applicab |
| | | | | | | | | | |
| | | | | | | | | | |

Form NR-2 - UPLAND GAME BIRDS*

(1) SPECIES: Use correct common name.

(2) DENSITY:

Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

Refuge

(3) YOUNG PRODUCED:

ratory use.

Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO:

This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS:

Indicate total number in each category removed during the report period.

____(6) TOTAL: 10000 TOTAL

Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS:

Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

*Only columns applicable to the period covered should be used.

3-1750c Form NR-1C (Sept. 1960)

WATERFOWL HUNTER KILL SURVEY

Rice Lake NWR

Refuge Rice

Year 196 9

| | | | EMOTTOURTEM | | | The Property Comment | - San | |
|-----------------|--|---------------|---|---|--|---|---|-------------------|
| (1) Weeks of | (2) No. Hunters | (3) Hunter | (4) | (5) Total | (6) Crippling | (7) Total | (8) Est. No. | (9) Est. Total |
| Hunting | Checked | Hours | Waterfowl Species and Nos. of Each Bagged | Bagged | | Kill | of Hunters | Kill |
| | | OZ ROZEN | ngins with opening day and ence see one orose low the same pattern. | d gailing | week of h | ne first ater. | (I) | |
| | precerd thould be phon to mlar care | odona an | No waterfowl hunting on refuge. | y a min who ha h day o pended. | vus of all from those during as guirub as frolls r | he goal ata only ollected be inste | | |
| | | | bours the hunters spent hunting on the refu | to redi | e total nu | d broom | (3) | |
| | allard (61), 3), Green- | ntry: N | ecreesing order of mumbers bagged. Sample Gadwall (11), Widgeon (6), Coot (N), Canadi | es in c d (16) | rfowl spect 36), Redhe | Listni | | |
| 西州 | | | orfowl bagged. | isw To a | redmun fajo | d broom | (5) | |
| | | _ber | erfowl reported knocked down but not recove | | otal number | | and the second second | |
| | an that are | | | | | | | |
| | Serontout | fyibert of | f hunters who hunted on the refuge during t | number Lumm 2) | Latot edt | stimate nunters | (8) | |
| | | | O percent. Column 9 = Column 2 z Column 7. | I of be | tostorq efq | msa ([f] | (9) | |
| | | | | | | | | 4 |
| | | | | | | | | |
| | 60348-60 | | | | | | | |
| | NA SET WE | Jan III and | (over) | | | | Real Control | |

INSTRUCTIONS

- (1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.
- (2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.
- (3) Record the total number of hours the hunters spent hunting on the refuge.
- (4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Greenwinged Teal (1).
- (5) Record total numbers of waterfowl bagged.
- (6) Record total numbers of waterfowl reported knocked down but not recovered.
- (7) Total of Columns 5 and 6.
- (8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).
- (9) Kill sample projected to 100 percent. Column 9 = $\frac{\text{Column 8}}{\text{Column 2}} \times \text{Column 7}$.

3-1753 Form NR-3 (June 1945)

BIG GAME

Refuge Rice Lake

Calendar Year 1969

| (1) Species | (2) Density | (3) Young Produced | | | 10 ve | ls | | | (5) sses | In | (6) troductions | Estima Total I Popula | ted lefuge | (g) Sex Ratio |
|----------------------|--|---------------------------|-------------|---------------------|---|----------------------------|------------------------------|---------------------------------|-----------------------------|----------------------|--|-----------------------------|---------------|---------------------|
| Common Name | Cover types, total Acreage of Habitat | Number | Hunting | For Re- stocking | Sold | For Research | Predation | Disease | Winter Loss | Number | Source | At period of Greatest use | As of Dec. | |
| White-tailed Deer | 12,000 acres marsh and upland | 50 | 60 | so so stin | 1 1 10 f 10 f 10 f 10 f 10 f | cove but le, r | no h no h no h na h | 3976 7/530 0/4.6 128.3 | the s info lend l | ni n Nedi Nedi | nanges oder ish the des prace evace rase prairi | 150 | 50 | |
| Moose | 12,000 acres marsh and upland | alsted ab m yeurs j | - 0 - 03 | 981 891 1000 | | Energy general und e | idi avă bad | 180 182 80 t | tere p present de ind | r bs ox o blu | es of bluod de counts o nde essin i | 2 | | |
| Black Bear | 12,000 acres marsh and upland | 5 | 503 | g as | gog | nto n | nod | | Lates Lases | | otsul : Carte | 10 | 5 | |
| m2 | mates indicate total league | deo sida: | | 20 | edri Lon | reco | 3A | | to sis | s ba cato | done | TCSBEST | (5) | |
| | which stock was secured. | sorl you | 88 | io i | | 02 Si | | eďa | on est | 972 | effel : Ek | LITSUDOSTRI | | |
| | to believe at period of | species (| 084 | 20 | 201 | daist | 00 | be# | amitres phares | 051 200 | inerg Toerg | TOTAL REPU | (2) | |
| norl : | f each species as determined | females .e. | Sal | wo. | na day | do ag | 202 | 9:317 3:80 | eg odi tavve | eda ado | indir Mela | SEL BATIC: | (8) | ě |

hunting success was comparable to that of a year ago. Moose are transients. As with deer, moose wander on and off the refuge. Some deer winter off the refuge. The same is true of the bear.

Reported by Carl E. Pospichal; Refuge Mgr.

INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisians white-tailed deer.
- DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
 - (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
 - (4) REMCVALS: Indicate total number in each category removed during the year.
 - (5) LCSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
 - (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
 - (7) TOTAL REFUGE
 POPULATION: Give the estimated population of each species on the refuge at period of its
 greatest abundance and also as of Dec. 31.
 - (8) SEX RATIC: Indicate the percentage of males and females of each species as determined from field observations or through removals.

in line with deer populations in this general area, the refuge population was down somewhat but the

as comparable to that of a year ago. Moose are transients. As with deer, woose wander on and off the

| Refuge | Rice Lake NWR | Year 19. 69 |
|--------|---------------|-------------|
| NA. | 11 | |

| Botulism | Lead Poisoning or other Disease |
|---|--|
| Period of outbreak | Kind of disease NONE Species affected |
| Losses: Actual Count Estimated (a) Waterfowl (b) Shorebirds (c) Other | Number Affected Species Actual Count Estimated |
| Number Hospitalized No. Recovered % Recovered | Number Recovered |
| (a) Waterfowl (b) Shorebirds (c) Other | Number lost Source of infection |
| Areas affected (location and approximate acreage) | Water conditions |
| Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc. | Food conditions |
| | |
| Condition of vegetation and invertebrate life | Remarks |
| Remarks | |

3-1757 Form NR-7 (Rev. June 1960)

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

Refuge Rice Lake NWR Year 19⁶⁹

| | | Colle | ection | s and Re | ceipts | | | | Plant | ings | WII - 2.0 20 - 20 20 - 20 20 - 20 20 - 20 20 20 20 20 20 20 20 20 20 20 20 20 | | ************************************** |
|--|--------|--------|--------|----------|--------|---------|--------------|----------|--------------|--------------|---|----------|--|
| | (Seed | ls, ro | otsto | cks, tre | es, sh | rubs) | | (| Marsh - Aqua | tic - Upland |) | | |
| The state of the s | | | = | | | | - | 7 | Amount | | | | |
| | Amount | (2) | | | | (3) | | Rate of | Planted | | | | |
| | (Lbs., | C | | Method | | Total | | Seeding | (Acres or | Amount and | | | |
| | bus., | or | | or | | Amount | Location of | or | Yards of | Nature of | | | Cause |
| Species | etc.) | R | Date | Source | Cost | on Hand | Area Planted | Planting | Shoreline) | Propagules | Date | Survival | of Loss |
| | | | | | | | | | | | | | |
| Wild Rice | 3,958 | 6 | 9/8- | Hand | | 115* | | | | | | | |
| MITG LITCE | lbs. | | 9/19 | flail | | | | | | | | | |
| | 1200 | | 2/ -2 | by | | , , | | | | | | | |
| | | | | Indians | | | | | | | = | | |
| | | | | | | | | | | | | | |
| | | | | | | 21 | | | | | | | |
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| 1 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | 4 | | | | | |

| (1) Report agronomic farm crops on Form NR-8 (2) C = Collections and R = Receipts (3) Use "S" to denote surplus | Remarks: 115 pounds of wild rice retained for seeding in Rice Lake and West field impoundments. This seed planted same day as harvested. Balance of rice sold to highest bidder. Cash income \$4,680.23 |
|---|---|
| Marsh and aquatic | |
| Hedgerows, cover patches Food strips, food patches Forest plantings | |

3-1758 Form NR-8 (Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

| Cultivated Crops | | ittee's Harvested | Govern | ment's Shated | | Return | Total Acreage | | anure, and Water- owsing Crops | Total |
|-------------------------------|---|----------------------|-----------------|--|--------------|--|---|--|--------------------------------------|--------------|
| Grown | Acres | Bu./Tons | Acres B | u./Tons | Acres | Bu./Tons | Planted | Type an | | Acreag |
| orn | | # # I | 1 - 10 | - 1 | 28 | 25 | 28 | Mowed | hay strips | 7 |
| ats | | | 1 to | - | 22 | 15 | 22 | Rye | | 3! |
| Buckwheat | the sines and the state of the | p postanta 1 | Service Lin | OC. EDETH W. | 34 | 8 | 34 | A section of the sect | | STRUMO MOSSI |
| Difference | | | rocad – baż | Description of the second seco | seled jackso | ecte victo - pode d'abected to a l'actuat visione caracte | as post byen as post byen mins spo no | | Ag. Land | 6. |
| | | of American | ns - | | ** | | Q | Grazin | g Operations | 0 |
| lo. of Permittees: | Agricultur | ar operation | 9,19 | | Haying (| Operations | | | e obergarous | 38 |
| Hay - Improved (Specify Kind) | Tons Harvested | Acres | Cash Revenue | | RAZING | Operations Numl Anim | oer | AUM'S | Cash Revenue | ACREAGE |
| Hay - Improved | Tons | | Cash | 0 | | Numi | per hals | | Cash | 38 |
| Hay - Improved | Tons Harvested | Acres | Cash Revenue | 1. | RAZING | Numl Anir | per hals | AUM'S | Cash Revenue | ACREAGE |
| Hay - Improved | Tons Harvested | Acres | Cash Revenue | 1. | Cattle Other | Numl Anir | per nals | AUM'S 176 | Cash Revenue | ACREAGE |

DIRECTIONS FOR PREPARING FORM NR-8 CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under <u>Cultivated Crops</u>, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

REFUGE GRAIN REPORT

| (1) | (2) On Hand | (3) Received | (4) | | GRAIN D | (5) ISPOSED OF | | (6) On Hand | Proposei | (7) or Suitable | LE USE* |
|--|--|--|--|---|--|--|---|---|--|--------------------|---------|
| Variety* | BEGINNING of PERIOD | DURING PERIOD | Total | Transferred | Seeded | Fed | Total | End of Period | Seed | Feed | Surplus |
| Corn | 200 | 250 | 450 | 10-01480-1 | 1 N. GOVERNMENT PAI | 175 | 175 | 275 | | 275 | |
| Rye | 1 100 | cate here tion of grai | 100 | grain sh es propose | ipped in, d d. | estination | of grain tr | mafe 103 da | 103 | | |
| Buckwheat | | | 40 | | 10 | | 40 | 0 | | | |
| Oats | 8 | 30 | 30 | crops. | 30 | | 30 | 6. Indicate | if grain is | | |
| | | imn 4 less o | | mo pic no | mintion of a | moin listoi | i in column | g Indicate | if main ia | | |
| | | | food patch nns 2 and 3. | 65. | | | | | | | |
| | m m oi | brid corn, llo, new er U not suffi her refuge | of grain sep garnet wheat a cowpeas, n ce, as specifi a. Include o n received d | , red May iikado soy c details a nly domes | wheat, dur beans, etc re necessar tic grains; | um wheat, Mere li y in consi iquatic an | spring wher sting as corr dering trans d other seeds | t, proso mill I, wheat, an fer of seed will be liste | it, combine I soybeans supplies to I on NR-9. | | |
| 60 | sin shall be blb., barley- ixed—50 lb. | grain in b considered 50 lb., rye In comput | ushels. For equivalent —55 lb., oat ing volume o | to a busi s—30 lb., f granarie | el: Corn (soy beans- s, multiply | shelled)— -60 lb., n the cubic | 55 lb., corn fillet—50 lb. contents (cu | (ear) —70 h , cowpeas— ft.) by 0.8 b | , wheat— 10 lb., and ushels. | | |
| | This repo | rt should e | over all grai | n on hand | , received, | or dispese | and the same | | | | |
| (8) Indicate shipping(9) Grain is stored at | or collection | Refuge | e grainery | ELICE | GRAIN B | EPORT | | | | | ¥ |
| | K-80 | | | | | | | | | | |
| *See instructions on had | 1 | | | | | | | | | | 1661482 |

(10) Remarks

NR-8a

(8) Indicate shipping or collection points

(9) Grain is stored at

Refuge grainery

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

ON HAND RECEIVED

OF FARIOD

PERSONN

OF FARIOD

OF FAR

Refuge

Buckwheat

Rice Lake NWR

Months of January

40

- through

December, 19695

TIMBER REMOVAL

| Refuge Rice Lake NWR Year 19409 | | | | | | | | | |
|---------------------------------|--------------|---------------------|--------------|---|----------------------|-----------------|---|-------------|--|
| Permittee | Permit No. | Unit or Location | Acreage | No. of Units Expressed in B. F., ties, etc. | Rate of Charge | Total Income | Reservations and/or Diameter Limits | Species Cut | |
| No timber re | moval pendir | g revised t | imber manage | ment plan. | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Total acreage o | ut over | | Total inco |) me | | | | * | |
| No of units no | morrod P F | | Nothed of | alach diamagal | | | | | |

Cords

Bureau of Sport Fisheries and Wildlife

Refuge Rice Lake

ANNUAL REPORT OF PERSTICIDE APPLICATION

Proposal Number Reporting Year
2 1969

| INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395. Location Total Total Amount Carrier | | | | | | | | | 9 |
|--|---------------------------|---------------------------|---|---------------------|--------------------------------------|--|---------------------|---------------------------|-----------------------------|
| | Date(s) of Application | List of Target Pest(s) | Location of Area Treated | Total Acres Treated | Chemical(s) Used | Total Amount of Chemical Applied | Application Rate | Carrier and Rate | Method of Application |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| | 6/23 7/18-25 9/4 | Willow (Salix) | Scattered willow patches vicinity of Rice Landing and West Fields | 75 | 2,4-D and 2,4,5-T Brush Killer | 150# | 2#/acre | Water 20 gal. /acre | Ground Equip. |
| | 6/9 | Quack grass | West Fields | 28 | Atrazine 80% | 100# | 3#/acre | Water | Ground Equip. |

10. Summary of results (continue on reverse side, if necessary)

Apparent kill 90 plus per cent; target was resprouting of willow mowed the year previously. Access was too wet (ground, not surface) in some areas and these were not sprayed. Coverage was excellent because of low stature of target.

Quack grass kill with atrazine about 90%.

3-1750 Form MR-1 (Rev. March 1953)



WATERFOWL

REFUGE Rice Lake

MONTHS OF September TO December, 1969

| (1) | Sept. Weeks of reporting period | | | | | | | | | |
|--------------------|---------------------------------|-------|---------|---------|----------|-----------|---------|----------------|------------|-----------------|
| Species | 8/31 ¹ -9/6 | 7-13 | 14- 320 | 21 4 27 | 28 -10/4 | 5 -6 11 | 12 7 18 | 19 - 25 | 26 -11/1 | 10 2 - 8 |
| Swans: | | | | | | | | | | |
| Whistling | | | | | | | | 42 | 70 | 25 |
| Trumpeter | | | | | | | | | | |
| Geese: | 400 | 400 | 500 | 500 | 500 | | | | | |
| Canada | 400 | 400 | 500 | 500 | 500 | 750 | 800 | 750 | 500 | 45 |
| Cacking Lesser | | | | | | 200 | 200 | 200 | 150 | 5 |
| Brant | | | | | | | | | - | |
| White-fronted | | | - | 200 | 50 | 350 | 1 000 | 000 | 300 | - 00 |
| Snow Blue | | | | 30 | 50 | 150 | 1,200 | 300 | | 20 |
| Other | | | | 30 | 50 | 100 | 800 | 100 | 200 | 15 |
| Ducks: | | | | | | | | | | |
| Mallard | 2,000 | 2,000 | 2,000 | 1 000 | 10,000 | 15 000 | 00 000 | 15 000 | 00 000 | |
| Black | 150 | 150 | 150 | 4,000 | 10,000 | 15,000 | 20,000 | 15,000 | 20,000 | 15,00 |
| Gadwall | 130 | 130 | 130 | 250 | 250 | 500 10 | 100 | 50 | 500 | 80 |
| Baldpate | 1,000 | 1,200 | 1,200 | 10,000 | 10,000 | | | 1,000 | 500 | - 50 |
| Pintail | 300 | 300 | 300 | 10,000 | 10,000 | 6,000 | 3,000 | 200 | 500 100 | 50 5 |
| Green-winged teal | 500 | 500 | 500 | 1,000 | 6,000 | 5,000 | 6,000 | 3,000 | 1,000 | 60 |
| Blue-winged teal | 3,000 | 3,000 | 3,000 | 5,000 | 5,000 | 2,000 | 500 | 3,000 | 1,000 | - 00 |
| Cinnamon teal | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 | 2,000 | 300 | | | |
| Shoveler | 30 | 30 | 30 | 50 | 50 | 100 | 100 | 50 | - | - |
| Wood | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 1,500 | 1,000 | 500 | 300 | 30 |
| Redhead | 30 | 50 | 50 | 100 | 300 | 500 | 1,000 | 500 | 200 | 5 |
| Ring-necked | 100 | 100 | 100 | 10.000 | 15,000 | 50,000 | 50,000 | 45,000 | 30,000 | 10,00 |
| Canvasback | 20 | 20 | 20 | 100 | 250 | 1,500 | 2.000 | 3,000 | 5,000 | 2,00 |
| Scaup | 20 | 20 | 20 | 20 | 20 | 100 | 1,000 | 1,000 | 5,000 | 5,00 |
| Goldeneye | 10 | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 100 | 5 |
| Bufflehead | | | | 1 | | | 20 | 20 | 50 | 5 |
| Ruddy | | | | | | | | | | T " |
| Other Hooded Merg. | 250 | 250 | 250 | 250 | 250 | 300 | 500 | 500 | 500 | 30 |
| 1 22 | 100 | 200 | 500 | 5,000 | 10,000 | 8,000 | 3,000 | 3,000 | 700 | 20 |
| Coot: | | | | -, | -3,000 | 2,000 | 0,000 | 3,000 | 700 | 20 |

Int. Dup. Sec., Wash., D.C. 37944